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IDENTIFIERS	Military Curriculum Project

ABSTRACT

These lesson plans and student materials--handouts and workbook--for a secondary-postsecondary-level course for clinical specialists are one of a number of military-developed curriculum packages selected for adaptation to vocational instruction and curriculum development in a civilian setting. Purpose stated for the 105-hour course is to provide skills and techniques required to participate as effective and efficient members of a health care team performing preventive, therapeutic, and emergency care duties. The program of instruction, which suggests number of hours of class time devoted to each course objective, is based on three main subject areas: Orientation (2 lessons, 2 hours), Fundamentals of Patient Care (13 lessons, 81 hours), and Ambulatory Health Care (7 lessons, 22 hours). The lesson plans detail references, equipment, and content description (lesson outlines). A number of student handouts with detailed note-taking pages are also provided. The student workbook contains lesson objectives and detailed note-taking pages. Excerpts (chapters 1, 2, 5, 6, 8, 9, and 10) from Army Technical Manual TM-8-230, Handbook of Basic Nursing, are also provided. Information for suggested transparencies (which are not provided) is often contained in the course and provides a basis for teacher-development of them. (YLB)

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ED183898

Military Curricula for Vocational & Technical Education

CLINICAL SPECIALIST

10-17

CE 024 529

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY

This military technical training course has been selected and adapted by The Center for Vocational Education for "Trial Implementation of a Model System to Provide Military Curriculum Materials for Use in Vocational and Technical Education," a project sponsored by the Bureau of Occupational and Adult Education, U.S. Department of Health, Education, and Welfare.

MILITARY CURRICULUM MATERIALS

The military-developed curriculum materials in this course package were selected by the National Center for Research in Vocational Education Military Curriculum Project for dissemination to the six regional Curriculum Coordination Centers and other instructional materials agencies. The purpose of disseminating these courses was to make curriculum materials developed by the military more accessible to vocational educators in the civilian setting.

The course materials were acquired, evaluated by project staff and practitioners in the field, and prepared for dissemination. Materials which were specific to the military were deleted, copyrighted materials were either omitted or approval for their use was obtained. These course packages contain curriculum resource materials which can be adapted to support vocational instruction and curriculum development.

The National Center Mission Statement

The National Center for Research in Vocational Education's mission is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning, preparation, and progression. The National Center fulfills its mission by:

- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

FOR FURTHER INFORMATION ABOUT
Military Curriculum Materials
WRITE OR CALL
Program Information Office
The National Center for Research in Vocational Education
The Ohio State University
1960 Kenny Road, Columbus, Ohio 43210
Telephone: 614/486-3655 or Toll Free 800/848-4815 within the continental U.S. (except Ohio)

THE NATIONAL CENTER
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Military Curriculum Materials for Vocational and Technical Education

Information and Field Services Division

The National Center for Research in Vocational Education

Military Curriculum Materials Dissemination Is . . .

an activity to increase the accessibility of military-developed curriculum materials to vocational and technical educators.

This project, funded by the U.S. Office of Education, includes the identification and acquisition of curriculum materials in print form from the Coast Guard, Air Force, Army, Marine Corps and Navy.

Access to military curriculum materials is provided through a "Joint Memorandum of Understanding" between the U.S. Office of Education and the Department of Defense.

The acquired materials are reviewed by staff and subject matter specialists, and courses deemed applicable to vocational and technical education are selected for dissemination.

The National Center for Research in Vocational Education is the U.S. Office of Education's designated representative to acquire the materials and conduct the project activities.

Project Staff:

Wesley E. Budke, Ph.D., Director
National Center Clearinghouse

Shirley A. Chase, Ph.D.
Project Director

What Materials Are Available?

One hundred twenty courses on microfiche (thirteen in paper form) and descriptions of each have been provided to the vocational Curriculum Coordination Centers and other instructional materials agencies for dissemination.

Course materials include programmed instruction, curriculum outlines, instructor guides, student workbooks and technical manuals.

The 120 courses represent the following sixteen vocational subject areas:

- Agriculture
- Aviation
- Building & Construction Trades
- Clerical Occupations
- Communications
- Drafting
- Electronics
- Engine Mechanics
- Food Service
- Health
- Heating & Air Conditioning
- Machine Shop
- Management & Supervision
- Meteorology & Navigation
- Photography
- Public Service

The number of courses and the subject areas represented will expand as additional materials with application to vocational and technical education are identified and selected for dissemination.

How Can These Materials Be Obtained?

Contact the Curriculum Coordination Center in your region for information on obtaining materials (e.g., availability and cost). They will respond to your request directly or refer you to an instructional materials agency closer to you.

CURRICULUM COORDINATION CENTERS

EAST CENTRAL
Rebecca S. Douglass
Director
100 North First Street
Springfield, IL 62777
217/782-0759

MIDWEST
Robert Patton
Director
1515 West Sixth Ave.
Stillwater, OK 74704
405/377-2000

NORTHEAST
Joseph F. Kelly, Ph.D.
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225 West State Street
Trenton, NJ 08625
609/292-6562

NORTHWEST
William Daniels
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Building 17
Airdustrial Park
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206/753-0879

SOUTHEAST
James F. Shill, Ph.D.
Director
Mississippi State University
Drawer DX
Mississippi State, MS 39762
601/325-2510

WESTERN
Lawrence F. H. Zane, Ph.D.
Director
1776 University Ave.
Honolulu, HI 96822
808/948-7834

Classroom Course

10-17

CLINICAL SPECIALIST (PRIMARY TECHNICAL)

300-91C20

Developed by:
United States Army

Development and Review Dates:
June 1977

Occupational Area:
Health

Target Audiences:
Grade 11 - Adult

Print Pages: 1396
Microfiche: 24

Availability:
Vocational Curriculum Coordination Centers

Contents:	Type of Materials:						Instructional Design:				Type of Instruction:	
	Lesson Plans:	Programmed Text:	Student Workbook:	Handouts:	Text Materials:	Audio-Visuals:	Performance Objectives:	Tests:	Review Exercises:	Additional Materials Required:	Group Instruction:	Individualized:
Annex A - Orientation	●			●	●	x	●			x	●	
Annex B - Fundamentals of Patient Care	●			●	●	x	●			x	●	
Annex C - Ambulatory Health Care	●			●	●	x	●			x	●	

X Materials are recommended but not provided

THE NATIONAL CENTER
FOR RESEARCH IN VOCATIONAL EDUCATION

Course Description:

The course is designed to provide skills and techniques required to participate as effective and efficient members of a health care team performing preventive, therapeutic, and emergency care duties. The course consists of three subject areas covering 105 hours of instruction.

Annex A - Orientation consists of 2 lessons requiring 2 hours of instruction.
- Effective Learning and Communication Techniques (1 hour)
- Ethical and Medicolegal Responsibilities of the Clinical Specialist (1 hour)

Annex B - Fundamentals of Patient Care contains 13 lessons covering 81 hours of instruction.
- Hospital Chart and Medical Records (3 hours)
- Temperature, Pulse, Respiration, Blood Pressure (5 hours)
- Signs and Symptoms (3 hours)
- Hygienic, Safety, and Activity Needs of Patient (21 hours)
- Asepsis (17 hours)
- Pre- and Post-Operative Care (9 hours)
- Care of Immobilized Patient (7 hours)
- Simple Disorders of the Skin (1 hour)
- Procedures in Digestive Disorders (6 hours)
- Procedures for Respiratory Conditions (3 hours)
- Procedures for Disorders of the Bowel (2 hours)
- Death and Dying (2 hours)
- Postmortem Care (2 hours)

Annex C - Ambulatory Health Care consists of 7 lessons requiring 22 hours of instruction.
- Conduct of Sick Call (1 hour)
- Assisting with Physical Exam (1 hour)
- Collection and Storage of Specimens (3 hours)
- Simple EENT Conditions (6 hours)
- Cardiopulmonary Resuscitation (5 hours)
- Anaphylactic Shock (2 hours)
- Administering Immunizations (4 hours)

The course contains both teacher and student materials. Printed instructor material includes lesson objectives and lesson outlines detailing references, equipment, and content description. Student materials include a number of handouts with detailed note-taking pages and excerpts from Army Technical Manual TM-8-230, "Handbook of Basic Nursing." Transparencies suggested in the course outline are not included. However, the information for the transparencies is often contained in the course providing a basis for developing the transparencies.

Classroom Course 10-17

CLINICAL SPECIALIST

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DEPARTMENT OF THE ARMY
ACADEMY OF HEALTH SCIENCES,
U.S. ARMY FORT SAM HOUSTON,
TEXAS 78234

June 1977

PROGRAM OF INSTRUCTION

FOR

300-91C20

CLINICAL SPECIALIST (PRIMARY TECHNICAL) COURSE

MOS: 91C20

LENGTH: Peacetime - 16 weeks
Mobilization - 2 weeks/2 days

APPROVED BY:
THE SURGEON GENERAL
DEPARTMENT OF THE ARMY
DATE 2 June 1977

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MODIFICATIONS

Sections I & II of this publication has (have) been deleted in adapting this material for use in Vocational and Technical Education. Deleted material involves extensive use of military forms, procedures, systems, etc. and was not considered appropriate for use in vocational and technical education.

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SECTION III - BODY

ACADEMIC SUBJECTS
TEACHING RESPONSIBILITIES

300-91C20, CLINICAL SPECIALIST (PRIMARY TECHNICAL) COURSE

Division and Subject or Annex Title & Subject	Hours		Annex	Page
	Peace	Mob		
Phase I				
ORIENTATION SUBJECTS			A	
Orientation to the Course			A	
Effective Learning and Communication Techniques			A	
Ethical and Medicolegal Responsibilities of the Clinical Specialist 91C20/AMEDD Team			A	
Enlisted MOS Structure and Duties and Organization of the Department of Nursing			A	
FUNDAMENTALS OF PATIENT CARE			B	
The Hospital Chart and Medical Records			B	
Temperature, Pulse, Respirations and Blood Pressure			B	
Signs and Symptoms			B	
Hygienic, Safety and Activity Needs of the Patient			B	
Asepsis			B	
Pre and Postoperative Care of the Surgical Patient			B	
Care of the Immobilized Patient			B	
Simple Disorders of the Skin			B	
Common Nursing and Diagnostic Procedures in Digestive Disorders			B	
Nursing Procedures for Respiratory Conditions			B	
Nursing Procedures for Disorders of the Bowel			B	
Death and Dying			B	
Postmortem Care			B	
AMBULATORY HEALTH CARE			C	
Conduct of Sick Call			C	
Assisting with Physical Examination			C	
Collection and Storage of Specimens			C	
Simple EENT Conditions			C	
Cardiopulmonary Resuscitation			C	
Anaphylactic Shock			C	
Administering Immunizations			C	

MODIFICATIONS

Portions of Annex A of this publication has (have) been deleted in adapting this material for use in Vocational and Technical Education. Deleted material involves extensive use of military forms, procedures, systems, etc. and was not considered appropriate for use in vocational and technical education.

ANNEX A

ORIENTATION SUBJECTS

OBJECTIVE: (1) Discuss the scope of the course and course requirements. (2) Apply effective learning techniques. (3) Demonstrate basic capabilities in leadership and administrative skills required to supervise other AMEDD enlisted personnel in providing health care.

Subject and LP No		Lesson Objective	References
Effective Learning and Communication Techniques 65-530-006		State the principles of learning. Identify and apply effective learning techniques: how to take notes; how to study; how to take an examination; and how to supplement class content with reference reading. Verbally and in writing express self clearly and concisely in accordance with the standards outlined in class.	GR 03-410-002-1; Thompson & Rosdahl, chap 2.
Ethical and Medicolegal Responsibilities of the Clinical Specialist 91C20/AMEDD Team 65-360-007		State the purpose of an ethical code for personnel working in the health care field. State purpose of the "Bill of Rights" for patients. Discuss importance of the "Bill of Rights." State ethical rules governing information and its release on the health care record. Identify members of Army Medical Department (AMEDD) Team to include: MC, ANC, DC, VC, MSC, and AMSC.	AR 40-1; AR 340-21; TM 8-230, chap 1, sec IV, chap 9; HSC Reg 10-1; Creighton, chap 1-7; Fuerst & Wolff,

SECTION IV - ANNEXES

ANNEX B

FUNDAMENTALS OF PATIENT CARE

Peacetime: 81 hours
Mobilization : 73 hours

OBJECTIVE: *(1) Communicate observations of patient conditions clearly, concisely and accurately both verbally and in writing on appropriate forms. *(2) Identify untoward reactions and/or signs and take appropriate action. *(3) Safely apply nursing care procedures in the performance of care and treatment of acutely, seriously, and chronically ill patients.

Subject and LP No	Lesson Objective	References
The Hospital Chart and Medical Records 65-290-009	**Identify components of the hospital chart, its utilization and maintenance to include: TPR Graphic (SF511); Nursing Notes (DD640); Doctors Orders (DD728); and Nursing Care Plan (DA8-250). Identify and state use and/or purpose of the following: identaplate, Clinical Record Cover Sheet (CRCS), Health Record, Individual Sick Slip, and Nursing Care Assignment Sheet. Identify Health Record (HREC) and an Outpatient Record. Identify peacetime and wartime conditions requiring a patient to be carded for Record Only (CRO). Identify types of information found in the Medical Summary (RCS MED-302). Given clinical or administrative information make the proper entry on the aforementioned forms.	AR 40-407; TM 8-230, chap 5, pp 5-41 thru 5-49; chap 6, pp 6-8 thru 6-10; 6-41 thru 6-43.
Temperature, Pulse, Respirations, and Blood Pressure 65-340-010	**Describe three methods of measuring body temperature and the normal reading for each. Given the proper equipment, correctly measure to the exact degree, and record temperature. Locate, measure (within four beats) and record a radial, apical, popliteal and pedal pulse on an individual. Measure (within two breaths) and record respirations. Given appropriate equipment, measure	TM 8-230, chap 5, pp 5-49 thru 5-58; Brunner, pp 447; HRET, chap 10; Lewis, pp 111-138; Mass Gen, pp 57-64;

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** Interim crucial objectives (ICO).

Subject and LP No	Lesson Objective	References
	(within six millimeters of mercury) and record blood pressure. Demonstrate procedure for obtaining a popliteal blood pressure.	Wood, Vol II, Unit 26.
Signs and Symptoms 65-340-011	** Define objective signs and subjective symptoms, giving an example of each. Discuss observation as it relates to signs and symptoms including nonverbal communication. Given a list of signs (cough, respiration, skin color, emesis, edema, hemorrhage, body temperature, pulse, blood pressure, pupils of the eyes, level of consciousness, and movement), identify objective words which could be written in chart of patient to describe the specific sign. Given a list of subjective symptoms (pain, nausea, headache, blurred vision, deafness, numbness, and ringing in ears), demonstrate through use of patient questioning the location, duration, intensity, occurrence and associated symptoms, if any, and record appropriately in nursing notes.	TM 8-230, chap 5, pp 5-51 thru 5-52; Byers, pp 35-55; MacBryde & Blacklow. Thompson & Rosdahl, pp 185-193.
Hygienic, Safety and Activity Needs of the Patient 65-340-012	** Identify components of a patient admission procedure. Given proper equipment and practice, admit a patient to include: weight, height, allergies, next of kin, symptoms and/or complaints, and vital signs. Record appropriate information on TPR graphic and Nursing Notes. Orient patient to unit, ward routine, rules and regulations. Disrobe patient and dress patient in pajamas/gown. Check and provide for care of valuables.	TM 8-230, chap 5; Brunner, pp 5-10; Dison, pp 45-67 DuGas, chap 5,7,8, 10,13,15,16, 26; HRET, chap 5-11; Johnston & Hood, pp 335-365;

** ICO.

Subject and LP No			Lesson Objective	References
		20	Demonstrate a complete bed bath to include oral hygiene, skin care, back rub, perineal care, active/passive range of motion (ROM) and cleaning of the unit. Demonstrate the making of an occupied and unoccupied bed. Demonstrate positioning of the patient to include: semi-fowlers, Sims, prone, supine, and orthopneic positions utilizing comfort pillows, hand rolls and footboard. Demonstrate serving the diet tray and feeding the patient. Demonstrate accurate measuring and recording of patient intake and output. Identify the principles of transfer techniques. Demonstrate patient transfer techniques utilizing proper body mechanics to include: transfer from bed to wheelchair or chair and back to bed, transfer from bed to litter and back to bed, and transportation of a patient on a litter. Demonstrate a male or female catheterization using sterile technique. Demonstrate safe application of a male external catheter. Perform routine catheter care. Perform a closed bladder irrigation. Demonstrate the safe application of mechanical restraints to include: posey belt, abdominal belt (sheet) and leather/web restraints. Identify elements of intravenous fluid therapy to include: care of equipment; signs of infiltration, phlebitis, and infection. Given a list, check a patient care area for potential safety hazards and report findings to appropriate personnel.	Lewis, chap 5,6,8,10,12, 16; Lippincott, pp 2-23,36, 463-467, 1073-1076; Little; Mass Gen, pp 3,5,9-14,25-46, 49,54-55, 57-58,60-66, 167-168, 205-211,297, 305-311; Thompson & Rosdahl, chap 26,27, 29; Wood, Vol I Unit 5,6,9-19; Vol II Unit 21,24,26-27; Vol III Unit 4-5.

Subject and LP No	Lesson Objective	References
	Given the Nursing Care Plan, make entries appropriate to the responsibilities of a 91C20 to include: assessment, hygiene, safety and activities. Identify the components of a hospital discharge procedure. Demonstrate discharging a patient to include: informing patient and explaining discharge procedure, assist patient in dressing and securing personal items, advise patient of follow-up clinic appointments, direct patient to the nurse for further instructions, remove patient's name from TPR, BP and diet rosters, direct patient to A&D for discharge and valuables.	
Asepsis 65-340-013	**Define medical and surgical asepsis. List specific purpose in the use of both medical and surgical asepsis. Identify the basic concepts relating to sterility. Demonstrate the proper handwashing technique. Demonstrate putting on and taking off a gown and mask without contamination. Demonstrate donning disposable sterile gloves maintaining sterile technique. Assemble an isolation unit. Demonstrate how to establish and maintain an isolation area to include provision for control of elements introduced into the area, removal of linens and waste using the double bag technique. Identify differences between concurrent and terminal cleaning of an isolation unit. Demonstrate reverse isolation. Demonstrate opening a	TM 8-230. chap 5, pp 5-61 thru 5-67;5-149 thru 5-169; chap 8, pp 8-26 thru 8-28; AHA; Benenson; Brunner, chap 37, pp 1022-1079; CDC; Dison, chap 2; DuGas, chap 20-21; HRET chap 16; Johnston & Hood, chap 3, pp 46-57; Lewis, chap 4,15; Lippincott, chap 15, pp 813-862;

** ICO.

Subject and LP No	Lesson Objective	References
	sterile pack, setting up a sterile field, opening a syringe package, pouring a sterile liquid, withdrawing from a multidose vial. Demonstrate removal of a soiled surgical dressing, application of a sterile dressing and disposal of contaminated waste. Demonstrate removal of sutures.	Mass Gen, pp 99-129; Seedor; Sutton, chap 7, pp 101-127; Thompson & Rosdahl, chap 30, pp 278-287; Wood, Vol I Unit 8, Vol II Unit 36, Vol III Unit I.
Pre and Post-operative Care of the Surgical Patient 65-340-014	** Perform preoperative nursing care in accordance with the Surgical Checklist, DA Form 3629. Demonstrate instructing and assisting a patient to cough, turn, deep breath, and use of blow bottles. Given a list of symptoms, select the symptoms of immediate postoperative complications to include pulmonary embolism, hemorrhage, shock and hypoxia. Prepare a surgical bed. Demonstrate suctioning of a patient to include mouth, endotracheal, and tracheotomy suctioning. Demonstrate collection of a sputum specimen by suctioning. Demonstrate admittance of a surgical patient back to the ward from the recovery room to include positioning, assembling necessary equipment, transfer of patient to bed, observations of wound and admission note. Prepare a water-sealed drainage and perform care of the drainage bottles to include safety precautions. Apply anti-embolism stockings to a patient. Demonstrate cleansing of an open wound in preparation for surgery.	TM 8-230, chap 5, pp 5-169 thru 5-170, 5-174 thru 5-192, 5-194 thru 5-199, pp 6-37; Beland, pp 270-271; Brunner, p 478; Johnston & Hood, pp 142-144, 150-158; Lewis, pp 379-382, 412-413, 436-452; Lippincott, pp 44-49, 77-82; Mass Gen, pp 281-287; Shafer, *et al*, pp 354, 522-24; Wood, Vol II Unit 33, 35, Vol III Unit 7, Unit 8.

** ICO.

Subject and LP No	Lesson Objective	References
	Apply a wet-to-dry dressing and warm soaks.	
Care of the Immobilized Patient 65-340-015	** Identify the signs of pressure on the skin due to immobilization of the body or a body part. Given a list, identify the signs of impaired circulation. Define skeletal and skin traction. Perform traction care to include positioning, maintaining weights, countertraction, and hygiene. Apply Buck's traction. Demonstrate the rotation of a patient on a Foster or Stryker turning frame. Prepare a patient for crutch ambulation to include adjusting the crutches and teaching the five kinds of crutch walking. Demonstrate care of the patient with a cast to include care of the wet cast, dry cast, personal hygiene, skin care and exercises (isometrics). Apply a dressing and appropriately wrap a stump. Remove a plaster splint.	TM 8-230, chap 5, pp 5-200 thru 5-211, 5-215 thru 225; Brunner, pp 134-136, 975,979-982, 992-995; Larson & Gould, pp 24, 51-66, 68-90,96-113, 447; Thompson & Rosdahl, pp 534-541, 549-550; Wood, Vol I Unit 13, Unit 15, Vol II Unit 31, 32.
Simple Disorders of the Skin 65-340-016	** Identify the cause, symptoms, medical treatment and nursing care of the following skin disorders: athlete's foot, warts, herpes simplex, furuncle, carbuncle, poison ivy, impetigo, cellulitis, immersion foot, frostbite, urticaria, and acne vulgaris.	TM 8-230, chap 10, pp 10-27 thru 10-28; Brunner, pp 719-732; Lippincott, pp 568-586; Thompson & Rosdahl, pp 517-520; Wood, Vol III Unit 6,pp 227-246.

** ICO.

Subject and LP No		Lesson Objective	References
Common Nursing and Diagnostic Procedures in Digestive Disorders 65-340-017		** Demonstrate insertion of a nasogastric tube. Given a patient with nasogastric tube properly placed, administer a tube feeding (gavage). Demonstrate irrigation of a of a nasogastric tube, connection to a gastric suction (Gomco or Emerson) and care of a patient with a nasogastric tube. Identify the steps in preparing patient for the following diagnostic procedures: UGI, BE, GB and IVP. Define a cleansing enema and a retention enema. Demonstrate the steps in sequence in administration of a cleansing enema and a retention enema. Define a colostomy. Demonstrate an irrigation of a colostomy.	TM 8-230, chap 5, sec VII; Brunner, pp 531-539; Lewis, pp 278-285; Lippincott, pp 380-383, 395-398, 414; Sutton, pp 142-165; Wood, Vol II Unit 25, pp 492-523, Vol III Unit 10 pp 307-325.
Nursing Procedures for Respiratory Conditions 65-340-018		** Given a list of definitions, select the correct definition of allergic rhinitis, bronchial asthma, pneumonia and bronchitis. List the symptoms of an impending bronchial asthma attack. Perform care for patient with bronchial asthma to include positioning, breathing exercises, observation for signs of dehydration and measures to decrease anxiety. Assemble a croup tent and an isolette for use. Perform care of the patient with pneumonia or bronchitis to include positioning, observation for cyanosis, observations of mental status and measures to decrease anxiety. Administer oxygen by nasal prongs and mask (nonrebreathing, simple and Venturi). Set up a wall oxygen unit and oxygen tank to include humidifier. Perform postural drainage on a patient.	TM 8-230, chap 5, pp 5-92 thru 5-104, 5-109 thru 5-110, chap 10, pp 10-32 thru 10-35; Brunner, pp 782-785; Lippincott, pp 91,158-164, 1140-1145; Shafer, et al, pp 490-492, 502-503, 507-509, 511-512; Sutton, pp 218-219; Thompson & Rosdahl, pp 611, 615-616;

** ICO.

Subject and LP No		Lesson Objective	References
			Wood, Vol II Unit 29 pp 581-603.
Nursing Procedures in Disorders of the Bowel 65-340-019		** Given a list of definitions, select the correct definition of pilonidal cyst, hemorrhoid, fissure in ano, intestinal obstruction, and appendicitis. Demonstrate care of patient with a pilonidal cyst or fissure in ano to include observation of stool, positioning, cleansing of wound and comfort measures. Demonstrate care of patient with hemorrhoids to include positioning, control of bleeding, observation of stool, and comfort measures. Identify the signs and symptoms of intestinal obstruction. Demonstrate preparing patient for a Sitz bath.	TM 8-230, chap 5, pp 5-77 thru 5-78, 5-115; Brunner, chap 24; Johnston & Hood, pp 309-312, 321-322; Lippincott, pp 407-410, 417, 422-424; Thompson & Rosdahl, pp 643-645; Wood, Vol II Unit 22.
Death and Dying 65-340-020		** List and define the five stages of psychosocial behavior through which the patient and his family may learn to accept death.	TM 8-230, chap 5, pp 5-147 thru 5-149; Aguilera, pp 269-277; Bregman, pp 180-183; Engel, pp 93-98; Kubler-Ross; Schwartz, pp 354-371; Wood, Vol II Unit 28.

** ICO.

Subject and LP No				Lesson Objective	References
Postmortem Care 65-340-021				** Demonstrate the care given to the deceased patient. Given the proper forms and patient belongings, complete the inventory of the patient's effects IAW TM 8-230. Demonstrate securing a body on a litter. Identify the proper method for transporting a body to the morgue.	TM 8-230, chap 5, pp 5-148 thru 5-149; Bregman, pp 172-173; DuGas, pp 356-357; Mass Gen, pp 19-21; Wood, Vol II Unit 28.

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** ICO.

SECTION IV - ANNEXES

ANNEX C

AMBULATORY HEALTH CARE

OBJECTIVE: *(1) Communicate observations of patient conditions clearly, concisely, and accurately, both verbally and in writing on appropriate forms. *(2) Identify untoward reactions and/or signs and take appropriate action. *(3) Safely apply nursing care procedures in the performance of care and treatment of acutely, seriously, and chronically ill patients.

Subject and LP No		Lesson Objective	References
Conduct of Sick Call 65-340-022		** State purpose of sick call according to TM 8-230. Identify 91C20 responsibility and/or function in treating a patient on sick call. State purpose of screening procedure utilized in sick call. Given a list, select appropriate procedures used when a patient is suspected of having a contagious disease. Given a list, choose post treatment measures a 91C20 may perform in the conduct of sick call. Identify methods of dealing with an obstreperous patient.	AR 40-2; AR 385-40; AR 600-6; TM 8-230, chap 6, pp 6-9 thru 6-13.
Assisting with Physical Examination 65-340-023		** List the types of physical examinations commonly performed in the Ambulatory Care Clinic. Identify specific patient record forms utilized in recording results of a routine physical examination. Given a list, select portions of physical examination that may be the responsibility of the 91C20. Given a list, identify equipment used in performing a routine physical examination. Given a situation(s), determine whether or not the conduct expected of a 91C20 was displayed and appropriate to the situation.	AR 40-501; TM 8-230, chap 6, Sec I; Wood, Vol III, pp 135-153.

** ICO.

Subject and LP No		Lesson Objective	References
Collection and Storage of Specimens 65-340-024		**Given a list of specific tests to be obtained, complete appropriate laboratory slips. Collect routine urine specimen, urine specimen for culture and sensitivity, and urine specimen from a catheter. Given a urine sample, perform a sugar and acetone test and measure accurately the specific gravity. Obtain a sputum specimen for routine culture and sensitivity, acid fast bacillus, and cytology. Collect stool specimen and perform Guaiac test. State precautions for collection and storage of continuous collection of urine and stool. Obtain a throat culture and a wound culture. Given a blood test to be drawn, select and label appropriate laboratory slip; select syringe or vaccutainer, needle, specimen tube, and draw the specimen. Destroy needle and syringe after use.	TM 8-230, chap 5, sec XII, pp 5-79 thru 5-84; Lippincott, pp 118, 382,461-463,658-659; Mass Gen, pp 77-81; Wood, Vol II, Unit 23, pp 443-473, Vol III, Unit 11, pp 325-348.
Simple EENT Conditions 65-340-025		**Demonstrate nursing measures performed to control a nose bleed. Given a list, label drawing of the eye and external ear. Perform eye irrigation and administer eye drops. Perform ear irrigation and instill ear drops. Apply warm and cold eye compresses to an individual. Apply eye patch. Assemble mist vaporizer.	TM 8-230, chap 2, pp 2-49 thru 2-54; Brunner, pp 265, 845-848, 873; Lewis, pp 366-367, 396-397, 411; Lippincott, pp 91, 684-685, 706-708; Shafer, et al, p 754, Sutton,

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** ICO.

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Subject and LP No	Lesson Objective	References
		pp 335-339, 350-353; Wood, Vol II, Unit 31, Vol III, Unit 4, Unit 6.
Cardiopulmonary Resuscitation 65-340-026	**Given a list, identify signs and symptoms of a partial and complete airway obstruction. Identify steps that can be taken to provide an open airway. Given an adult manikin, demonstrate sequential manual maneuvers to remove a foreign body obstruction from the airway to include back blows, manual thrust and finger probe. Demonstrate the Heimlich maneuver on an individual. Identify when the mouth-to-mouth and mouth-to-nose artificial respiration would be the method of choice. List the sequential steps in mouth-to-mouth and mouth-to-nose artificial breathing. Given an appropriate manikin, demonstrate both mouth-to-mouth and mouth-to-nose artificial breathing in proper sequence. Given a list, identify five early warning indicators and six symptoms of a heart attack. Define cardiac arrest. Identify from a given list the precautions to observe when applying CPR. List the sequential steps in CPR of an unwitnessed cardiac arrest. Given an adult manikin, demonstrate in sequence, CPR of an unwitnessed cardiac arrest to include both a one-man and a two-man rescue team. Given an adult manikin, demonstrate in sequence CPR of a witnessed cardiac arrest.	TM 8-230, chap 8, sec II-IV; AHA Manual; AHA Training Manual; AAOS, chap 15-16; Brunner, chap 38, pp 1081-1089; Lippincott, pp 246-248, 900-902, 1098-1102; Wood, Vol II, Unit 30.

** ICO.

Subject and LP No	Lesson Objective	References
	Given an infant manikin, demonstrate in sequence the proper technique for resuscitating an infant.	
Anaphylactic Shock 65-340-027	** Given a list, select the correct definition of anaphylactic shock. Select from a given list conditions known to commonly precipitate anaphylactic shock. Given a list, identify those symptoms one might see in anaphylactic shock. List 10 major emergency treatment measures a 91C20 might perform or assist with in the treatment of an individual experiencing anaphylactic shock. Given a prepared guide, identify and check the contents of an anaphylactic tray.	AR 40-562; TM 8-230, chap 6, sec III; TB Med 114; AAOS, chap 17, pp 74-79, chap 38, p 170; Brunner, pp 789, 1100-1101, 1113; Johnston & Hood, p 536; Lippincott, pp 902-903; Shafer, et al., pp 67-68; Wood, Vol III, Unit 12, pp 348-374.
Administering Immunizations 65-340-028	** Given a specific geographic area and a copy of AR 40-562, identify immunizations necessary for that area. Given a list of vaccines, identify proper storage temperature. Given a list of rules (5-rights) and safety precautions, identify those to be followed when administering immunizations. Identify three types of reactions that can occur after an immunization is administered. Select proper measures that should be performed if anaphylactic reaction results from an	AR 40-562; TM 8-230, chap 6, sec III; TB Med 114; Mass Gen, pp 139-141; Sutton, pp 76-80; Thompson & Rosdahl, pp 325-326, 330-338; Wood, Vol III, Unit 12, pp 348-375.

** ICO.

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Subject and LP No			Lesson Objective	References
			immunization. Given the proper equipment, administer to an individual an intradermal (ID), subcutaneous (SQ), and intramuscular (IM) injection, using aseptic technique and the five "Rights."	

MODIFICATIONS

Section IV Annex D&F of this publication has (have) been deleted in adapting this material for use in Vocational and Technical Education. Deleted material involves extensive use of military forms, procedures, systems, etc. and was not considered appropriate for use in vocational and technical education.

SECTION V

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CPT E. SIMMERMAN
ACADEMY OF HEALTH SCIENCES, USA LP 65-530-006
NURSING SCIENCES DIVISION 057

Effective Learning and Communication Techniques (1 hour)

COURSES PRESENTED TO: Clinical Specialist (Primary Technical) Course, 300-91C20

PLACE: Classroom

REFERENCES:

FM 21-6 chap 3
GR 03-410-002-1
Thompson, Ella & Rosdahl, Caroline. Textbook of Basic Nursing. 2d ed. Philadelphia: J. B. Lippincott., 1973.

STUDY ASSIGNMENT: Not applicable

STUDENT UNIFORM AND EQUIPMENT: Not applicable

TOOLS, EQUIPMENT, AND MATERIALS: Overhead projector, M 65-530-006-1

PERSONNEL: One (1) ANC instructor (Nursing Science Division)

INSTRUCTIONAL AIDS: T 65-530-006-1

TROOP REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: 1 Lecture

I. INTRODUCTION (3 min)

A. Opening Statement: You each are a member of a group--students at the Academy of Health Sciences. You are professional, full time students. After you graduate from this course you will contribute to your field by putting into use the knowledge and skills you have learned here. Learning can be a difficult process, but there are techniques you can use to effectively study, learn and recall new material. Just as there are good and poor procedures for swimming, so are there good and poor procedures for learning. Today we will discuss these procedures to help you make your schooling successful.

B. Objectives

1. State the principles of learning

2. Identify and apply effective learning techniques
    a. How to take notes
    b. How to study
    c. How to take an examination
    d. How to supplement class content with reference reading
3. Express yourself clearly and concisely, verbally and in writing, in accordance with the standards outlined in class.

C. Class Procedure and Lesson Tie-In:

The techniques presented in this block of instruction apply to any class you take, and when applied, will assist you in successful learning of new material.

NOTE: Refer to Annex A

II. EXPLANATION (38 min)

A. Principles of Learning

1. Effective learning takes place only when motivating force is present.
2. Information directly related to the objectives must be discriminated from unrelated information.
3. Only takes place when new information has been internalized and can be applied to a given situation.

B. Note Taking

1. Discriminate content
    a. Differentiate between important ideas and unrelated comments
    b. Refer to objectives

NOTE: See Annex A, T 65-530-006-2

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2. Use outline format

    a. Sift content to main points

    b. Make headings brief--not sentences

    c. Use roman numerals for headings

    d. Use A, B, C, etc., for subdivisions under main points

NOTE: Use transparency (See Annex A)

3. Be a good listener

    a. Be attentive and aggressive

        (1) Listen to what is said

        (2) Ignore distractions, prejudgements, and emotional responses

QUESTION: What is aggressive listening?

ANSWER: Aggressive listening is when the listener's energy is devoted to anticipation of what will be said, and organization and understanding of what is said.

    b. Listen for clues to main points and organization

        (1) Key statements in the introduction

        (2) Training aids

        (3) Transition between main points, i.e., phrases, pauses

        (4) Summary--reiterates main points

4. Revise notes if needed

    a. Reorganize into good topic outline

    b. Do this shortly after class

5. Use looseleaf paper

QUESTION: Why use looseleaf paper?

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ANSWER: Looseleaf paper enables you to file your notes together on one subject.

6. File notes according to subject matter

C. How to Study

1. Plan time for daily studying

2. Provide yourself with a favorable environment

a. Well lighted

b. Adequate ventilation

c. Remove distracting stimuli

3. Study notes systematically

a. Begin as soon after class as possible

b. Recite notes

(1) Read notes once

(2) Go back to first main point, turn into a question

(3) Cover subpoints and answer question

(4) Uncover and check answer

(5) Move on to second main point

(6) Continue through notes

c. After thorough study, review notes at intervals

4. Use study techniques in preparing reading assignment

a. Determine type of assignment i.e., study, scan, review, etc.

b. Survey whole assignment first

(1) Takes about 1 minute

(2) Tells what to expect in your reading

c. Question yourself before beginning

(1) Ask question you expect to be answered in reading

(2) Ask question to help retain reading

d. Read to answer your questions

e. Recite answer to your question

f. Review your assignment--look over recitation notes

5. Improve reading ability

a. Have purpose for your reading

b. Read for ideas

c. Push to read faster

d. Seek individual help

D. How to Take an Examination

1. Use effective study techniques

a. Do not try to "outguess" instructor

b. Review between exams

c. Review with a group after you have studied

d. Get a good night's sleep

e. Don't Cram

2. Make good use of time during exam

a. Make an overview when test is handed out

b. Read and follow directions

c. Answer easy items first, then recycle

E. Supplementing class content with reference reading

  1. Ask instructor for references

  2. Sources should be written by an expert or recognized organization

  3. Check subject matter for similarities

F. Standards of written and verbal communication

  1. Legibility

  2. Good grammar

  3. Correct spelling

  4. Correct terminology

  5. Use of appropriate forms

G. Questions from students

III. SUMMARY (4 min)

A. Review of main points

  1. Principles of learning

  2. How to take notes

  3. How to study

  4. How to take an examination

B. Closing Statement: Good habits in note-taking, exam-taking, and studying are essential to every student who wants to successfully complete a course, in the most effective manner. If you utilize the principles reviewed here, you will help insure success in your schooling and your career.

ANNEX A
INSTRUCTIONAL AIDS

Transparencies

T 65-530-006-1 A. Principles of Learning

1. Motivation
2. Discrimination of Information
3. Application - must internalize and apply

B. Note Taking

1. Discriminate Content
    a. Important facts versus unrelated comments
    b. Refer to objectives
2. Outline Format
    a. Sift content
    b. Brief headings
3. Listen
    a. Be attentive and aggressive
    b. Listen for clues to main points
4. Revise Notes
5. Use Looseleaf Paper
6. File Notes

C. Studying

1. Plan Time
2. Favorable Environment
    a. Well lighted
    b. Adequate ventilation
    c. Remove distracting stimuli

3. Study Note Systematically
    a. Begin soon after class
    b. Recite notes
        (1) Read notes once
        (2) Go back to first main point, turn into a question
        (3) Cover subpoints and answer question
        (4) Check answer
        (5) Move on to second main point
        (6) Continue through notes

[illegible]

4. Preparing Reading Assignment
    a. Determine type assignment
    b. Survey whole assignment
    c. Question yourself before beginning
    d. Read to answer your question
    e. Recite answer
    f. Review Assignment
5. Improve Reading Ability
    a. Have purpose for reading
    b. Read for ideas
    c. Push to read faster
    d. Seek individual help

D. Taking Examination

1. Use Effective Study Techniques

- a. Don't "outguess" instructor
- b. Review between exams
- c. Review with group after you have studied
- d. Get a good night's sleep
- e. Don't cram

2. Make Good Use of Time
    - a. Overview test
    - b. Read and follow directions
    - c. Answer easy items first, then recycle

E. Supplementing Class Content

1. Ask for references
2. Sources written by expert or recognized organization
3. Check subject matter

F. Standards of Verbal and Written Communication

1. Legible
2. Good grammar
3. Correct spelling
4. Correct terminology
5. Use of appropriate forms

T 65-530-006-2 Example of Outline Format

CPT E. Simmerman
IM 65-530-006 33
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Effective Learning and Communication Techniques

You are a member of a group - students at the Academy of Health Sciences. You are professional, full-time students. After you graduate from this course you will contribute to your field by putting into use the knowledge and skills you have learned here. Learning can be a difficult process, but there are techniques you can use to effectively study, learn and recall new material. Just as there are good and poor procedures for swimming, so there are good and poor procedures for learning. Use of these procedures can help to make your schooling successful.

We will briefly discuss the principles of learning. First, learning can only take place when there is a motivating force present. No matter what that motivating force is, whether it be personal achievement, monetary gain, fear of failure, or anything else, it must be there in order for you to learn.

Second, in order for effective learning to take place, information directly related to the objectives must be discriminated from unrelated information. That is, to say, that you must distinguish the nice-to-know information from the need-to-know information. Always keep in mind the objectives of the class and gage your learning to them. Don't take home the haystack to find the needle!

The third principle of learning is that effective learning only takes place when new material has been internalized and can be applied to a given situation. In order for the learning process to be complete, for learning to be effective, you must be able to put that knowledge to use.

One of the basic fundamentals of effective learning is note taking. The first step in good note-taking is to discriminate content. Differentiate between the important ideas and unrelated comments presented. Refer to the class objectives. They will give you guidelines as what you are expected to learn during that period of instruction. When taking notes, always use outline format. This makes note taking easier for you and makes studying from your notes more effective. When using outline format sift from the content the main points. These will be your headings. They should be brief, not sentences. Roman numerals are used to denote the headings. Under the main headings use A, B, C, etc. for subdivisions, or sub-points, which relate to that main point.

One of the most important things to remember when taking notes is to be a good listener. Be attentive and listen aggressively. Listen to what is said. Ignore distractions, prejudgements, and emotional responses. Try to anticipate what will be said and organize an understanding of it. Listen for clues the speaker may give to main points and organization. Those may be given in key statements in the introduction, by training aids, or by phrases or pauses. Also, a reiteration of the main points will be given at the end of the lecture in the summary.

It is always a good idea as soon after class as possible to revise your notes, if needed. If necessary, reorganize them into a good topic outline. It is best to do this while the information is still fresh in your mind.

When taking notes always use looseleaf paper. This will make organizing and filing of your notes easier. Also, file your notes according to subject matter.

Proper study techniques are very fundamental to the facilitation of effective learning. Study time should be planned for, daily. When studying, provide yourself with a favorable environment. The area should be well lighted with adequate ventilation and all distracting stimuli should be removed.

When studying, study your notes systematically. Begin studying as soon as possible after class. Reciting your notes is one of the most effective ways to study. By following a 6-step method you should be able to get through your notes once. Now go back to the first main point and turn it into a question. Cover the subpoints and answer the question, then uncover the subpoints and check your answer. Move on to the next main point and continue the same way throughout your notes.

After you have initially studied the notes thoroughly, go back and review your notes at intervals. While you are studying take short breaks at intervals.

When you are preparing a reading assignment for a class also use study techniques. First determine the type of assignment, that is, study, scan, review, etc. Survey the entire assignment first. This should take you only about a minute and will tell you what to expect in your reading. Question yourself before beginning reading. Ask questions which you expect to be answered in your reading and to help retain what you read. Read to answer your questions and then recite the answers. After reading review your assignment and look over any notes you have taken.

When you are reading try to improve your reading ability. This can be done by following a few steps. Have a purpose for your reading when you begin. Read for ideas, not word by word, and push yourself to read faster. You may also want to seek individual help, and the learning resources lab has instruction available to improve reading ability.

Of course, examinations are important as they are usually the means by which you are evaluated in a course. Taking an examination, even if you know the material, can be very difficult unless you follow some simple guidelines for taking an examination. Using effective study techniques will help prepare you for an exam. Don't try to "out-guess" the instructor. Review the material with a group of students after you have thoroughly studied the material. Always get a good night's sleep before an exam and don't cram.

During the examination make good use of your time. When the test is first handed out make a overview of it. Always read and follow directions. Answer the easy questions first and then recycle and answer the rest of the questions.

At times it may be necessary for you to supplement class content with reference reading. If you do, ask the instructor for references. If you look for material yourself remember that sources should be written by an expert or recognized organization, and check the subject matter for similarities with what you are supplementing.

When communicating in writing or verbally there are certain standards which you must meet. First, all writing must be legible. Good grammar and correct spelling must also be used. Terminology must be correct and the appropriate forms must be utilized. If these standards are followed the ease of both verbal and written communication will be enhanced.

In the last hour we have discussed the principles of learning, how to take notes, study, and take an examination. We have also discussed supplementing class content with outside references and the standards of verbal and written communication.

Good habits in note-taking, studying and taking an examination are essentail to every student who wants to successfully complete a course in the most effective manner. If you utilize the principles reviewed here you will help insure success in your schooling and your career.

CPT E. Simmerma
M 65-530-006-1
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Effective Learning and Communication Techniques (1 hour)

OBJECTIVES

1. State the 3 principles of learning
2. Identify and apply effective learning techniques:
    a. Note taking
    b. Studying
    c. Taking examinations
    d. Reference reading
3. Express yourself clearly and concisely, verbally and in writing, in accordance with the standards outlined in class.

NOTES

A. Principles of Learning
    1. Motivation
    2. Discrimination of information
    3. Application

B. Note Taking
    1. Discriminate content
        a.
        b.
    2. Outline format
        a.
        b.
    3. Listen
        a.
        b.

4. Revise notes
5. Use looseleaf paper
6. File notes

C. Studying

1. Plan time
2. Favorable environment
    a.
    b.
    c.
3. Study notes systematically
    a.
    b.
        (1)
        (2)
        (3)
        (4)
        (5)
        (6)
    c.
    d. Take breaks
4. Preparing reading assignment
    a.
    b.
    c.

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d.

e.

f.

5. Improve reading ability

a.

b.

c.

d.

D. Examination Taking

1. Use effective study techniques

a.

b.

c.

d.

e.

2. Make good us of time

a.

b.

c.

E. Supplementing Class Content

1.

2.

3.

ANNEX A
INSTRUCTIONAL AIDS

Transparencies

T 65-530-006-1

A. Principles of Learning
    1. Motivation
    2. Discrimination of Information
    3. Application - must internalize and apply
B. Note Taking
    1. Discriminate Content
        a. Important facts versus unrelated comments
        b. Refer to objectives
    2. Outline Format
        a. Sift content
        b. Brief headings
    3. Listen
        a. Be attentive and aggressive
        b. Listen for clues to main points
    4. Revise Notes
    5. Use Looseleaf Paper
    6. File Notes
C. Studying
    1. Plan Time
    2. Favorable Environment
        a. Well lighted
        b. Adequate ventilation
        c. Remove distracting stimuli

3. Study Note Systematically
    a. Begin soon after class
    b. Recite notes
        (1) Read notes once
        (2) Go back to first main point, turn into a question
        (3) Cover subpoints and answer question
        (4) Check answer
        (5) Move on to second main point
        (6) Continue through notes
4. Preparing Reading Assignment
    a. Determine type assignment
    b. Survey whole assignment
    c. Question yourself before beginning
    d. Read to answer your question
    e. Recite answer
    f. Review Assignment
5. Improve Reading Ability
    a. Have purpose for reading
    b. Read for ideas
    c. Push to read faster
    d. Seek individual help

D. Taking Examination

1. Use Effective Study Techniques

        a. Don't "outguess" instructor

        b. Review between exams

        c. Review with group after you have studied

        d. Get a good night's sleep

        e. Don't cram

    2. Make Good Use of Time

        a. Overview test

        b. Read and follow directions

        c. Answer easy items first, then recycle

E. Supplementing Class Content

    1. Ask for references

    2. Sources written by expert or recognized organization

    3. Check subject matter

F. Standards of Verbal and Written Communication

    1. Legible

    2. Good grammar

    3. Correct spelling

    4. Correct terminology

    5. Use of appropriate forms

T 65-530-006-2   Example of Outline Format

CPT C.T. Splichal
LP 65-360-007
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Ethical and Medicolegal Responsibilities of the Clinical Specialist 91C20/AMEDD Team (1 Hour)

COURSES PRESENTED TO: Clinical Specialist (Primary Technical) 300-91C20

PLACE: Classroom

REFERENCES:

AR 40-1
AR 340-21
TM 8-230, chap 1, sec IV, chap 9
HSC Reg 10-1
Creighton, Helen. Law Every Nurse Should Know. Philadelphia: W. B. Saunders Co., 3d ed. 1975.
Fuerst, Elinor V., Wolff, LaVerne & Weitzel, Marlene H. Fundamentals of Nursing. 5th ed. Philadelphia: J. B. Lippincott Co., 1974.

STUDY ASSIGNMENT: TM 8-230, chap 1, sec IV, and chap 9

STUDENT UNIFORM AND EQUIPMENT: Not applicable

TOOLS, EQUIPMENT, AND MATERIALS: Overhead projector, mimeos (3) M 65-360-007-1, M 65-360-007-2, M 65-360-007-3.

PERSONNEL: One (1) ANC instructor (Nursing Science Division)

INSTRUCTIONAL AIDS: Transparencies (4) T 65-360-007-1, T 65-360-007-2, T 65-360-007-3, T 65-360-007-4.

TROOP REQUIREMENTS: Not applicable

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: 1 L

I. **INTRODUCTION** (3 min)

A. Opening Statement: Ethics is referred to as the discipline that concerns itself with human action in respect to being right or wrong.

Everyone has their set of standards by which they live, some more honorable than others. Professions establish their standards through codes. Needless to say, the medical professions have established high standards of performance because we deal with human life.

Ethical codes cannot be enforced by committees, panels, judges or juries; but by the individual's conscience. Each practitioner is expected to assume the obligation to uphold and adhere to the code of his or her profession.

B. Objectives

1. State the purpose of an ethical code for personnel working in the health care field.

2. State the purpose of the "Bill of Rights" for patients. Discuss the importance of the "Bill of Rights."

3. State ethical rules governing the information, and its release on the patient's health care record.

4. Identify the members of Army Medical Department team to include: ANC, MC, MSC, AMSC, DC, and VC.

5. Differentiate between the LVN/LPN and the Clinical Specialist 91C20 and 91C30.

6. Differentiate between negligence and malpractice.

C. Lesson Procedure and Tie-In

This lecture ties in to general responsibility for your job performance during your army career.

II. **EXPLANATION** (40 min)

NOTE: This presentation is supported by transparencies

A. Ethical Code

1. Purpose: establish standards of practice

NOTE: Copy of Code for Nurses as adopted by A.N.A. with handout

2. Example: ANA Code for Nurses

a. Provision of services with respect for the dignity of man unrestricted by considerations of nationality, race, creed, color, or status.

b. Safeguards individuals right to privacy by judiciously protecting information of a confidential nature, sharing only that information relevant to his care.

c. Maintains individual competence in nursing practice, accepting responsibility for individual action.

d. Safeguards patient when his care and safety are affected by incompetent, unethical, or illegal conduct of any person.

e. Individual competence as a criterion in accepting delegated responsibilities and assigning activities to others.

f. Participates in research activities when assured that the rights of the individual are protected.

g. Participate in the efforts of the profession to define and upgrade standards of nursing practice and education.

h. Acting within the professional organization participates in establishing and maintaining conditions of employment conducive to high-quality nursing care.

i. Works with members of health professions and other citizens in promoting efforts to meet health needs of the public.

j. Refuses to give or imply endorsement to advertising, promotion, or sales for commercial products, services, or enterprises.

B. Purpose of "Bill of Rights"

1. Insure patient is aware of his rights as an individual

NOTE: Refer to copy of "Bill of Rights" included in handout

2. AHA "Bill of Rights"

a. Right to considerate and respectful care

b. Current information concerning his diagnosis, treatment, and prognosis, in terms he can understand

- c. Information necessary to give informed consent prior to the start of any procedure
- d. Right to refuse treatment and be informed of the medical consequences of his action
- e. Privacy concerning his own medical-care program
- f. All communications and records pertaining to his care should be treated as confidential
- g. The right to expect that within its capacity a hospital must make reasonable response to the request of a patient for services
- h. Obtain information as to any relationship of his hospital to other health-care and educational institutions insofar as his care is concerned
- i. Advised if the hospital proposes to perform human experimentation affecting his care (and) to refuse to participate
- j. Expect reasonable continuity of care
- k. Receive and examine an explanation of his bill regardless of the source of payment
- l. Right to know what hospital rules apply to his conduct as a patient

NOTE: Emphasize points a, b, c, d, e, f, g, j, l.

C. Ethical Rules Governing the Release of Information

1. Written permission granted by patient for release of information

NOTE: Patient signs a privacy act statement on admission to the hospital

2. Release information only to those medical personnel who have an established need to know
3. No communication regarding a patient in halls, elevators, stairs, cafeteria or any other area where medical staff may congregate

NOTE: No privileged communication

QUESTION: What information can we release on an active duty soldier without invading his privacy?

ANSWER: (1) Name
(2) Grade
(3) Date of birth
(4) Date of rank
(5) Salary
(6) Present and past positions

D. Identify the Members of Army Medical Department

1. ANC (Army Nurse Corps)
    a. Commissioned
    b. Registered professional (Licensed)
    c. May delegate authority but not responsibility
2. MC (Medical Corps)
    a. Commissioned
    b. Licensed
    c. Initiates medical orders
3. MSC (Medical Service Corps)
    a. Commissioned
    b. Some Licensed or Registered
        (1) Pharmacist
        (2) Laboratory
    c. Provides support and administrative services
4. AMSC (Army Medical Specialist Corps)
    a. Commissioned
    b. Licensed or Registered

- (1) Physical therapist
- (2) Dietician
- (3) Occupational therapist

c. Provides care within their speciality

5. DC (Dental Corps)
   - a. Commissioned
   - b. Licensed
   - c. Provides oral care and reconstruction

6. VC (Veterinary Corps)
   - a. Commissioned
   - b. Licensed
   - c. Provides care for army animals, control of sanitation, care and control of animals belonging to army personnel, food inspection

E. Differentiate between the LVN/LPN and the Clinical Specialists 91C20 and 91C30

1. LVN/LPN
   - a. Approximately a years education
   - b. Licensed
   - c. Provides nursing care and administrative duties including administration of medications
   - d. Theoretical and practical basis of education

2. 91C30
   - a. approximately 40-46 weeks education

QUESTION: What is the difference between an LVN/LPN and a 91C30?

ANSWER: Essentially no difference except that State license is mandatory for LVN/LPN.

b. License not mandatory but is obtainable

c. Provides nursing care and administrative duties including administration of medications

d. Theoretical and practical basis of education

3. 91C20

a. Four weeks Academy of Health Sciences, FSH and 12 weeks in a general hospital

b. No license

c. Provide nursing care and basic administrative duties

d. Education practical in nature

F. Differentiate Between Negligence and Malpractice

1. Negligence: the omission to do something which a reasonable person, guided by those ordinary considerations which ordinarily regulate human affairs would do, or as doing something which a reasonable and prudent person would not do.

2. Malpractice:

a. General: professional misconduct, unreasonable lack of skill or fidelity in professional or judiciary duties, evil practice, or illegal or immoral conduct.

b. Medical: bad, wrong or injudicious treatment resulting in injury, unnecessary suffering or death to the patient, and proceeding from ignorance, carelessness, want of proper professional skill, disregard of established rules or principles, neglect or a malicious or criminal intent.

3. Malpractice vs Negligence

a. Differences not well distinguished

b. Preferable to consider malpractice synonymous with professional negligence

4. Examples of Professional Negligence

   a. Burns

   b. Falls

   c. Failure to observe and take proper action

   d. Loss of or damage to patients property

   e. Infections

G. Questions From Students

III. SUMMARY (2 min)

A. Review of Main Points

1. Ethical Code for practice

2. Bill of Rights for patients

3. Release of information

4. Members of the Army Medical Department

5. Difference between LVN/LPN, 91C30, and 91C20.

6. Difference between negligence and malpractice

B. Closing Statement: All medical personnel are responsible for their actions. This places the responsiblity for quality nursing care squarely on your shoulders with the patient receiving the benefit of this quality care.

Transparencies

T 65-360-007-1	Code, Bill of Rights, release of information
T 65-360-007-2	Code of Ethics
T 65-360-007-3	Bill of Rights
T 65-360-007-4	AMEDD Team, LVN/LPN negligence and malpractice
T 65-360-007-5	Negligence and malpractice

CPT C.T.Splichal
IM 65-360-007
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Ethical and Mediolegal Responsibilities of the Clinical Specialist 91C20.AMEED Team

Ethics can be defined as the discipline that concerns itself with human action in respect to being right or wrong. Everyone has a set of standards by which he lives, some more honorable than others.

Professions establish their standards through the use of codes. The medical professions have established high standards of performance because they deal with human life.

Ethical codes cannot be enforced by committees, panels, judges or juries; but by the individual's conscience. Each practitioner is expected to assume the obligation to uphold and adhere to the code of his or her profession.

There are several codes for nurses, some aimed at nursing as a world-wide profession, some for the nurse's aide. The American Nurses Association code for nurses is the best code for nurses and nursing practice, as it is practiced in the United States.

The American Nurses Association code is divided into ten elements or provisions. The first element deals with the provision of services, care, with respect for the dignity of man unrestricted by considerations of nationality, race, creed, color or status. This can basically be interpreted as rendering the best possible care to the patient,regardless of who he or she may be.

The second element deals with the nurse safe-guarding the individual's right to privacy by judiciously protecting information of a confidential nature. The patient's medical record is confidential. The information it contains is to be shared only with those medical personnel who have a need to know.

Nursing staff members sometimes release information to people whose concern may be only curiosity. Sometimes this information is passed from person-to-person on the stairs, in the elevator and, of course, the cafeteria.

The third provision or element deals with the maintenance of the nurse's individual competence in the practice of nursing. This is an area coming under close scrutiny because some nurses have been negligent in learning and applying new concepts. This is why many states are developing programs which require continuing education credits for relicensure. A second element contained in in this provision deals with accepting responsibility for individual action. This is probably the singly most important element of the code. Any nurse must have the scruples to accept the consequences of his or her action.

The fourth provision is basically an extension of accepting responsibility. It states that the nurse must safeguard the patient from incompetent, unethical or illegal conduct by any person. Nurses bear the responsibility of policing their own ranks and eleminating the incompetent individuals.

The fifth provision deals with the individual's competency and recognizing his or her ability to perform a certain function; in addition, the nurse must recognize the ability of subordinates and make their assignments accordingly.

The sixth provision deals with medical research and safeguarding the patient's rights during the research program.

The seventh provision deals with the definition of nursing as a profession and upgrading the standards of nursing practice and education to conform to professional standards.

The eighth provision deals with professional organizations for establishing and maintaining high quality nursing care.

The ninth provision requires nurses to work with other health professionals to promote quality health care to meet the needs of the public.

The tenth provision deals with refusing to endorse, through any means, commerical products.

Some of these elements will not apply to students in this level of nursing education. They are aimed at establishing standards that will qualify nursing as a true profession; education on the collegiate level, professional organizations for establishment of standards and to act as a policing body. This code may be used as a guide for your practice and performance.

Nurses have their codes by which they practice to guarantee the patient quality nursing care. The American Hospital Association has written a patients "Bill of Rights". This extends beyond the services a nurse can provide to include, the provision of care throughout the hospital.

The bill of rights is composed of twelve elements. The first element guarantees the patient's right to considerate and respectful

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care. The second right guarantees the patient current information concerning his diagnosis, treatment and prognosis given to him in lay terms. This provides him with the information required to give an informed consent prior to the performance of a procedure. It also provides the patient with the right to refuse treatment and to be informed of the consequences of his action. It provides for privacy and confidentiality regarding his care and records. It provides for the hospital to try and meet the patient's needs within its capacity to do so. If the hospital bears any relationship to another hospital, university or church, the patient has a right to this information. It guarantees the patient's rights when the hospital is planning human experimentation that may affect his care, in that, consent must be obtained to include him in the experimental program. This bill of rights also guarantees the patient reasonable continuity of care. The next element guarantees the patient's right to an explanation of his bill, regardless of the source of payment. The last element provides for the patient's right to know what hospital rules apply to his conduct as a patient.

Both the "ANA Code for Nurses" and the "AHA Bill of Rights" contain elements that guard the patient's right to confidential treatment of his record. Release of information is granted only by the patient, usually, in the form of a written release.

After signing this release the information is disseminated only to those who have a need to know. There are times when patient information may be discussed with other staff. Change of shift report, team conferences and consultations are examples when information is passed from one staff member to another.

Due to nature of the privacy act, the military establishment may routinely release certain information concerning active duty individuals. The patient's name, grade, date of birth, date of rank, salary, past and present position may be released. Most hospitals release a condition report on a patient, for example, if the patient is on the seriously ill or very seriously ill list or whether the patient is satisfactory or unsatisfactory

When you are working in an Army Hospital you will come in contact and work with certain health professionals.

You will have the most contact with the wardmaster and the head nurse.

The Army nurse is a member of the Army Nurse Corps who is licensed to practice nursing and is a graduate of either a diploma program or college with emphasis on collegiate preparation. The nurse is responsible for the rendering of nursing care. The nurse has the responsibility for maintaining the quality of care; he or she can delegate authority but always retains the responsibility.

The Medical Corps is composed of physicians who are graduates of medical schools. Some physicians specialize in areas of interest like surgery, or internal medicine. The physician provides the primary medical care from diagnosis to prescribing care.

Medical Service Corps officers provide general administrative functions. This corps also include officers who have specific training like Pharmacy and Podriatry and provide service within their speciality.

Army Medical Specialist Corps members fall in three catagories: Physical Therapist, Dieticians and Occupational Therapists. These officers provide care within their specialty.

The Dental Corps is composed of officers who have completed dental school. These officers provide all types of oral care and reconstruction. Dental Corps officers are taking an increasing role in preventive dentistry.

The Veterinary Corps is made up of officers who have completed Veterinary school. These officers provide for food inspections including storage areas, quality control, for local posts and in some areas inspection of large bulk purchases which may be distributed within the system. Provision of care for army animals and limited care of animals belonging to army personnel is a second responsibility of Veterinary officers.

The army and civilian communities maintain similiar standards for the training of medical personnel. Professional staff undergo the same training with requirements for licensure. The main difference occurs in the ranks of the paraprofessionals

The civilian Licensed Practical Nurse (LPN) and Licensed Vocational Nurse (LVN) are similar to the 91C10 (91C30) program that is maintained by the army.

Both programs are similar in length, content and skill taught. In the civilian community the LPN/LVN is required to maintain state licensure as a prerequisite to practice. The army's 91C10 (91C30) is not required to maintain licensure, but it should be strongly encouraged because it will be beneficial for the individual when his service obligation ends and he wishes to pursue this line of work in the civilian community.

The LPN/LVN and the 91C10 (91C30) both have strong backgrounds in theory as well as practical experience and are trained to administer advanced nursing skills and are qualified to administer medications.

The 91C20 program is a new concept developed by the army to provide well trained individuals who are task oriented. The emphasis is on learning the performance of certain tasks with minimal theoretical background. This course is designed to provide interim training between the 91B and the 91C30. The 91C20 will have an additional four weeks of theory and twelve weeks of hospital experience

When a nurse or physician commits an error in the practice of their professions they have been negligent and if the error is severe enough they may be sued for malpractice.

Negligence can be defined as: "the omission to do something which a reasonable person, guided by those ordinary considerations which ordinarily regulate human affairs would to, or as doing something which a reasonable and prudent person would not do."

Malpractice can be defined in general terms or specifically for medical practice. In general terms malpractice is defined as: "professional misconduct, unreasonable lack of skill or fidelity in professional or judiciary duties, evil practice, or illegal or immoral conduct." The general definition refers to professionals without making any specific reference to the medical field. When malpractice is defined medically it refers to bad, wrong or injudicious treatment resulting in injury, unnecessary suffering or death to the patient. When referred to medically it assumes the practitioner is proceeding from ignorance, carelessness, want of proper professional skill, disregard of established rules or principles, neglect or a malicious or criminal intent.

The differences between malpractice and negligence are not well distinguished. It is preferable to consider malpractice synonymous with professional negligence.

Patient burns or falls are examples of professional negligence. If the individual was not negligent with the use of a heat lamp or forgot the siderails, the patient would not have been burned or injured from the fall from the bed. Since the patient was injured by incorrect use or lack of use of equipment, the nurse was negligent. Malpractice has also occured because of injudicious treatment which resulted in injury.

Negligence and malpractice are essentially synonymous. The negligent act is not always an act of commission, it may also be an act of omission, as failing to use proper sterile technique resulting in the development of an infection.

All medical personnel are responsible for their actions. This burden of responsibility places the provision of quality nursing care on your shoulders. The patient is the prime beneficiary of quality care, but the nursing personnel receives the satisfaction of a job well done.

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CPT C.T. Splich
M 65-360-007-1
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Ethical and Medicolegal Responsibilities of the Clinical Specialist 91C20/AMEDD Team

Objectives

1. State the purpose of an ethical code for personnel working in the health care field.
2. State the purpose of the "Bill of Rights" for patients. Discuss the importance of the "Bill of Rights."
3. State ethical rules governing the information and its release on the patient's health care record.
4. Identify the members of the Army Medical Department team to include: ANC, MC, MSC, DC, and VC.
5. Differentiate between the LVN/LPN and the Clinical Specialist 91C30 and 91C20.
6. Differentiate between negligence and malpractice.

NOTES

A. Ethical Code

1. Purpose:

B. "Bill of Rights"

1. Purpose:

C. Ethical Rules Governing the Release of Information

1.

2.

3.

D. Identify Members of the Army Medical Department

1. ANC
    a.
    b.
    c.

2. MC
    a.
    b.
    c.

3. MSC
    a.
    b.
        (1)
        (2)
    c.

4. AMSC
    a.
    b.
        (1)
        (2)
        (3)
    c.

5. DC
   a.
   b.
   c.

6. VC
   a.
   b.
   c.

E. Differentiate between the LVN/LPN and the Clinical Specialist 91C30 and 91C29

1. LVN/LPN
   a.
   b.
   c.
   d.

2. 91C30
   a.
   b.

c.

d.

3. 91C20

a.

b.

c.

d.

F. Differentiate between negligence and malpractice

1. Negligence:

2. Malpractice:

a. General:

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b. Medical:

3. Negligence vs Malpractice

   a.

   b.

4. Examples of professional negligence

   a.

   b.

   c.

   d.

   e.

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CPT C.T. Splichal
M 65-360-007-2
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

ANA Code for Nurses

1. The nurse provides services with respect for the dignity of man, unrestricted by considerations of nationality, race, creed, color, or status.

2. The nurse safeguards the individual's right to privacy by judiciously protecting information of a confidential nature, sharing only that information relevant to his care.

3. The nurse maintains individual competence in nursing practice, recognizing and accepting responsibility for individual actions and judgements.

4. The nurse acts to safeguard the patient when his care and safety are affected by incompetent, unethical, or illegal conduct of any person.

5. The nurse uses individual competence as a criterion in accepting delegated responsibilities and assigning nursing activities to others.

6. The nurse participates in research activities when assured that the rights of individual subjects are protected.

7. The nurse participates in the efforts of the profession to define and upgrade standards of nursing practice and education.

8. The nurse, acting through the professional organization, participates in establishing and maintaining conditions of employment conducive to high-quality nursing care.

9. The nurse works with members of health professions and other citizens in promoting efforts to meet health needs of the public.

10. The nurse refuses to give or imply endorsement to advertising, promotion, or sales for commercial products, services, or enterprises.

CPT C.T. Splicha
ACADEMY OF HEALTH SCIENCES, USA M 65-360-007-3
NURSING SCIENCE DIVISION 057

AHA Patient Rights

1. The patient has the right to considerate and respectful care.

2. The patient has the right to obtain from his physician complete current information concerning his diagnosis, treatment, and prognosis, in terms he can understand. When it is not medically advisable to give such information to the patient, the information should be made available to an appropriate person on his behalf. He has the right to know, by name, the physician responsible for coordinating his care.

3. The patient has the right to receive from his physician information necessary to give informed consent prior to the start of any procedure. Except in emergencies, such information should include the specific procedure and/or treatment, the risks involved, and the probable duration of incapacitation. Where alternatives exist, the patient has the right to such information. The patient also has the right to know the name of the person responsible for the procedures.

4. The patient has the right to refuse treatment to the extent permitted by law, and to be informed of the medical consequences of his action.

5. The patient has the right to privacy concerning his own medical-care program. Those not directly involved in his care must have the permission of the patient to be present.

6. The patient has the right to expect that all communications and records pertaining to his care should be treated as confidential.

7. The patient has the right to expect that within its capacity a hospital must make reasonable response to the request of a patient for services. A patient may be transferred to another facility only after he has received complete information concerning the needs for such a transfer, and the alternatives. The institution to which the patient is to be transferred must first have accepted the patient for transfer.

8. The patient has the right to obtain information as to any relationship of his hospital to other health-care and educational institutions insofar as his care is concerned.

9. The patient has the right to be advised if the hospital proposes to perform human experimentation affecting his care [and] to refuse to participate.

10. The patient has the right to expect reasonable continuity of care.

11. The patient has the right to examine and receive an explanation of his bill regardless of the source of payment.

12. The patient has the right to know what hospital rules apply to his conduct as a patient.

CPT E. Simmerma
M 65-530-006-1
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Effective Learning and Communication Techniques

Objectives

1. State the 3 principles of learning

2. Identify and apply effective learning techniques:

   a. Note taking

   b. Studying

   c. Taking examinations

   d. Reference reading

3. Express yourself clearly and concisely, verbally and and in writing, in accordance with the standards outlined in class.

NOTES

A. Principles of Learning

   1. Motivation

   2. Discrimination of information

   3. Application

B. Note Taking

   1. Discriminate content

      a.

      b.

   2. Outline format

      a.

      b.

3. Listen

   a.

   b.

4. Revise notes

5. Use looseleaf paper

6. File notes

C. Studying

1. Plan time

2. Favorable environment

   a.

   b.

   c.

3. Study notes systematically

   a.

   b.

      (1)

      (2)

66

(3)

(4)

(5)

(6)

c.

d. Take breaks

4. Preparing reading assignment

a.

b.

c.

d.

e.

f.

5. Improve reading ability

a.

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b.

c.

d.

D. Examination Taking

1. Use effective study techniques

a.

b.

c.

d.

e.

2. Make good use of time

a.

b.

c.

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E. Supplementing Class Content

1.

2.

3.

F. Standards of Verbal and Written Communication

1.

2.

3.

4.

5.

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CPT C.T. Splichal

ACADEMY OF HEALTH SCIENCES, USA M 65-360-007-1
NURSING SCIENCE DIVISION 057

Ethical and Medicolegal Responsibilities of the Clinical Specialist 91C20/AMEDD Team

Objectives

1. State the purpose of an ethical code for personnel working in the health care field.
2. State the purpose of the "Bill of Rights" for patients. Discuss the importance of the "Bill of Rights."
3. State ethical rules governing the information and its release on the patient's health care record.
4. Identify the members of the Army Medical Department team to include: ANC, MC, MSC, DC, and VC.
5. Differentiate between the LVN/LPN and the Clinical Specialist 91C30 and 91C20.
6. Differentiate between negligence and malpractice.

NOTES

A. Ethical Code

1. Purpose:

B. "Bill of Rights"

1. Purpose:

C. Ethical Rules Governing the Release of Information

1.

2.

3.

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D. Identify Members of the Army Medical Department

1. ANC

   a.

   b.

   c.

2. MC

   a.

   b.

   c.

3. MSC

   a.

   b.

      (1)

      (2)

   c.

4. AMSC

   a.

   b.

      (1)

      (2)

      (3)

   c.

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5. DC
    a.
    b.
    c.
6. VC
    a.
    b.
    c.

E. Differentiate between the LVN/LPN and the Clinical Specialist 91C30 and 91C20

1. LVN/LPN
    a.
    b.
    c.
    d.
2. 91C30
    a.

b.

c.

d.

3. 91C20

a.

b.

c.

d.

F. Differentiate between negligence and malpractice

1. Negligence: The omission to do something which a reasonable person, guided by those ordinary considerations which ordinarily regulate human affairs would do, or as doing something which a reasonable and prudent person would not do.

2. Malpractice:

   a. General: Professional misconduct, unreasonable lack of skill of fidelity in professional or judicary duties, evil practice, or illegal or immoral conduct.

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b. Medical: Bad, wrong or injudicious treatment resulting in injury, unnecessary suffering or death to the patient, and proceeding from ignorance, carelessness, want or proper professional skill, disregard of established rules or principles, neglect or a malicious or criminal intent.

3. Negligence vs Malpractice

   a.

   b.

4. Examples of professional negligence

   a.

   b.

   c.

   d.

   e.

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CPT E.Simmerman

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

LP 65-290-009
057

The Hospital Chart and Medical Records (3 Hours)

COURSES PRESENTED TO: Clinical Specialist (Primary Technical) 300-91C20.

PLACE: Classroom (1st hour) PE(2d and 3d hours)

REFERENCES:

AR 40-407
TM 8-230

STUDY ASSIGNMENT: Review: TM 8-230, chap 5, 5-41, 5-49, chap 6, 6-8, 6-10, 6-41, 6-43.

STUDENT UNIFORM AND EQUIPMENT: Not applicable

TOOLS, EQUIPMENT, AND MATERIALS: Mimeos (4) M 65-290-009-1 thru 4

PERSONNEL: Thirteen (13) ANC/SM instructors (Nursing Science Division)

INSTRUCTIONAL AIDS: Overhead projector, transparencies (7) T 65-290-009-1 thru 7.

TROOP REQUIREMENTS: Not applicable

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: 1 L, 2 PE

FIRST HOUR

I. INTRODUCTION (2 min)

A. Opening Statement: In the medical field we cannot rely solely upon word-of-mouth to facilitate the nursing care of the patient or to communicate the patient's needs and progress. There are many reasons for keeping precise and accurate records on a person's inpatient or outpatient activities. It provides a reliable means of communication, a basis for planning care, and documents evidence of a course of illness. Keeping precise and accurate up-to-date records, on the proper forms, facilitates patient care. Today we will discuss some of the major components of the hospital chart.

NOTE: Refer to Handout (See M 65-290-009-1)

B. Objectives:

1. Identify the components of the hospital chart, its utilization and maintenance to include: TPR Graphic, Nursing Notes, Doctor's Orders, Nursing Care Plan.

2. State the use and/or purpose of the following: Identaplate, Clinical Record Cover Sheet, Individual Sick Slip, Nursing Care Assignment Sheet, Health Record and Outpatient Record.

3. Given clinical and administrative information make the proper entry on the TPR Graphic, Nursing Notes, Doctor's Orders, Nursing Care Plan, and Individual Sick Slip.

C. Class Procedure and Lesson Tie-in:

In this class we will discuss the use and maintenance of hospital records. A two-hour PE will follow in which you will practice using the hospital forms.

II. EXPLANATION (45 min)

NOTE: Use transparency (See Annex B)

A. Components of the Hospital Chart

1. TPR Graphic

a. Maintenance

(1) Current - Kardex (Nursing Book Unit)

(2) Completed - clinical record

b. Utilization - record physical responses

(1) Fill out top and patient information

(2) Record data

NOTE: Refer to Annex A (M 65-290-009-2)

2. Nursing Notes

a. Maintenance

(1) Current - In Kardex

(2) Completed - Clinical Record

b. Utilization: observation of pertinent data

(1) Date

(2) Make entry

(3) Sign

NOTE: Explain notes utilizing M 65-290-009-2 (Annex A)
T 65-290-009-5 (Annex B)

3. Doctor's Orders

a. Maintenance

(1) Current - Kardex

(2) Completed - Clinical Record

NOTE: Transparency - T 65-290-009-6 (Annex B)

b. Utilization: record orders and record when carried out

(1) Fill in patient information

(2) Enter initials in appropriate block - action carried out

(3) Discontinued orders

(a) Doctor initials and dates - discontinued date box

(b) Nurse initials and dates - on automatic stop orders

4. Nursing Care Plan

a. Maintenance - in separate book unit

QUESTION: What are Nursing Care Plans used for?

ANSWER:

b. Use: Assist in planning nursing care

    (1) Fill in identification information

    (2) Complete front of Care Plan

B. Identaplate

1. Purpose: To save time entering identifying data

2. Use: On all medical records and lab reports

NOTE: Transparency - T 65-290-009-2 (Annex B)

C. Clinical Record Cover Sheet

1. Purpose: To supply identifying, administrative, and admission information

2. Use: Each patient admitted and each case carded for record only

D. Individual Sick Slip

1. Purpose: Means of communicating duty status

2. Use: To inform commander

    a. Issued by orderly room

    b. Disposition indicated by medical officer

    c. Returned to unit commander

NOTE: Transparency - T 65-290-009-7 (Annex B)

E. Nursing Care Assignment Sheet

1. Purpose: To assign patient to personnel

2. Use: Assignment of nursing care

    a. Made out by head nurse

b. Record observation

c. Sign and turn in

F. Health Record - Permanent, Locally Available

1. Purpose: Assures immediate accessibility of record of care of military persons

QUESTION: When are Health Records used?

ANSWER: 2. Use: Accompanies patient during consultation and hospitalization

3. Must contain

a. SF-601 Immunization Record

b. SF-600 Chronological Record of Medical Care

c. Report of Medical Examinations (SF-88)

d. Report of Medical History (SF-93)

NOTE: Transparency - T 65-290-009-3 (Annex B)

G. Outpatient Record

1. Purpose: Assures immediate accessibility of record of care of non-military persons

2. Use: Accompanies patient during consultation and hospitalization.

H. Questions From Students

III. SUMMARY (2 min)

A. Review of Main Points

1. Components of the hospital chart

2. Identaplate

3. Clinical Record Cover Sheet

4. Individual Sick Slip

5. Nursing Care Assignment Sheet

6. Health Record

7. Outpatient Record

B. Closing Statement: The accurate recording and constant updating of patient records is a necessity. It is not the most glamorous part of nursing but proper recording of observations will enable the health care team to provide the patient with a continuity of care.

SECOND AND THIRD HOURS

I. INTRODUCTION (2 min)

A. Opening Statement: Medical records are one of the major means of communication used in the hospital. They provide hospital staff with information needed to coordinate patient care and evaluate patient progress. It is important that medical records be accurate, in order to accomplish these goals.

B. Objective:

Given clinical or administrative information make the proper entry on the TPR Graphic, Nursing Notes, Doctor's Orders, Nursing Care Plan, and Individual Sick Slip.

C. Class Procedure and Lesson Tie-in:

This is a two-hour practical exercise and follows the lecture on Hospital Charts and Medical Records. During this practical exercise you will record information on some of the forms discussed in that lecture.

II. APPLICATION (85 min)

A. General Plan for Conducting Practical Exercise

1. First 30 minutes

a. Student will divide into four equal groups and be assigned to station

b. Instructor will briefly discuss correct method of charting

__NOTE__: See M 65-290-009-4 (Annex A)

2. Last 90 minutes

    a. Students remain at same station

    b. Students complete charting on appropriate forms

__NOTE__: See Annex C

B. Instructors' activities

1. Assign PE stations - 25 per station; 4 stations

__NOTE__: See Annex C

2. Give clinical and administrative information to students

__NOTE__: See Annex A - M 65-290-009-3

3. Assist students in charting

4. Supervise students activities

__NOTE__: See Annex D

5. Evaluate students performance

6. Maintain discipline

7. Discuss students performance with student

__NOTE__: See Annex C

C. Students' activities

1. Make entries on TPR Graphic

2. Make entries on Nursing Notes

3. Make entries on Nursing Care Plan

III. REVIEW (5 min)

A. Questions From Students

B. Review of Main Points

1. Entries on TPR Graphic
2. Entries on Nursing Notes
3. Entries on Nursing Care Plan

C. Closing Statement: Medical records, when properly executed and utilized, provide the health care team with valuable information enabling us to provide the best and most effective patient care. This helps us meet the ultimate goal of returning the patient to an optimum level of wellness.

ANNEX A
INSTRUCTIONAL AIDS

Mimeos

M 65-290-009-1	To follow LP to assist students in note taking
M 65-290-009-2	Nursing Notes: Explanation and example of proper charting technique
M 65-290-009-3	Situations - Utilized during PE provides information students are to chart
M 65-290-009-4	Guidelines for charting - utilized by secondary instructors during PE. Provides information concerning proper utilization of Nursing Notes, Doctor's Orders, TPR Graphic, Nursing Care Plan and Nursing Care Assignment Sheet.

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ANNEX B
INSTRUCTIONAL AIDS

Transparencies

T 65-290-009-1 A. Components of the Hospital Chart

1. TPR Graphic
    a. Maintenance
        (1) Current - Kardex
        (2) Complete - File
    b. Utilization - record physical responses
        (1) Patient information
        (2) Record data
2. Nursing Notes
    a. Maintenance
        (1) Current - Kardex
        (2) Completed - File
    b. Utilization - observations
        (1) Date
        (2) Make entry
        (3) Sign
3. Doctors Orders
    a. Maintenance
        (1) Current - Kardex
        (2) Completed - File
    b. Utilization
        (1) Patient information
        (2) Initial
        (3) Discontinue

- (a) Doctor initials and dates
- (b) Nurse initials and dates

4. Nursing Care Plan
    - a. Maintenance - separate book
    - b. Use - planning care
        - (1) Identifying information
        - (2) Complete front

B. Identaplate
- 1. Purpose - time saving
- 2. Use - on all medical records

C. Clinical Record Cover Sheet
- 1. Purpose - supply information
- 2. Use - all patients

D. Individual Sick Slip
- 1. Purpose - communicate duty status
- 2. Use - to inform commander
    - (a) Issued by orderly room
    - (b) Disposition indicated
    - (c) Return to unit commander

E. Nursing Care Assignment Sheet
- 1. Purpose - assign patients
- 2. Use - assignment of nursing care

F. Health Record
- 1. Purpose - assure accessibility of records
- 2. Use - during consultations

3. Contents

    (a) SF-601 Immunization Record

    (b) SF-600 Chronological Record of Medical Care

    (c) Report of Medical Examinations (SF-88)

    (d) Report of Medical History (SF-93)

G. Outpatient Record

1. Purpose - assures accessibility of records

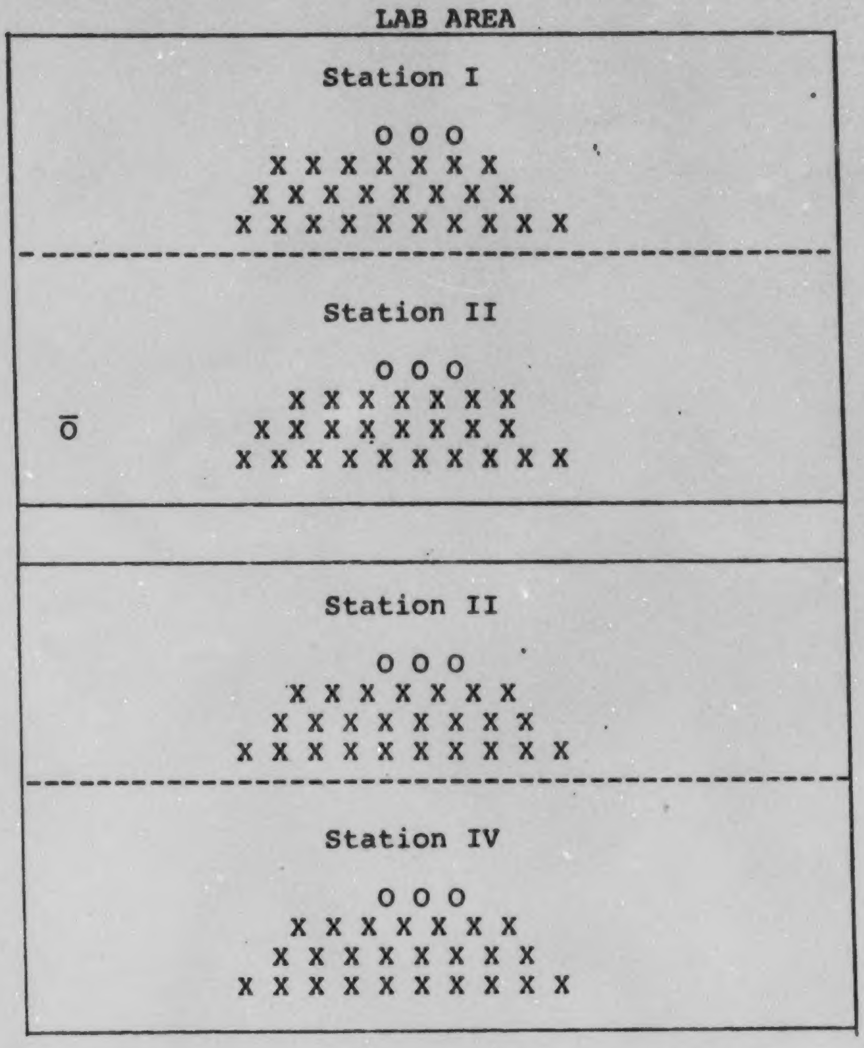
2. Use - during consultations

T 65-290-009-2	Example - Clinical Record Cover Sheet
T 65-290-009-3	Example - Chronological Record of Medical Care
T 65-290-009-4	Example - TPR Graphic
T 65-290-009-5	Example - Nursing Notes
T 65-290-009-6	Example - Doctor's Orders
T 65-290-009-7	Example - Nursing Care Assignment Sheet

ANNEX C

LP 65-290-009
057

Arrangement of PE Stations
Hospital Charts and Medical Records


LAB AREA
Station I
O O O
X X X X X X X
X X X X X X X X
X X X X X X X X X X
Station II
O O O
X X X X X X X
ō
X X X X X X X X
X X X X X X X X X X
Station II
O O O
X X X X X X X
X X X X X X X X
X X X X X X X X X X
Station IV
O O O
X X X X X X X
X X X X X X X X
X X X X X X X X X X

1449

ō-Primary Instructor
O - Secondary Instructor
X - students

4 Stations
25 Students per station
3 Secondary instructors per station

Description of PE Stations

All stations are identical
Students will remain at one station throughout PE
25 students per stations
4 secondary instructors per station

Equipment

1. Each student will be provided with:

   One Nursing Note
   One TPR Grpahic
   One Nursing Care Plan
   One Situation (See Annex A, M 65-290-009-3)
   One Mimeo (See Annex A, M 65-290-009-2)

2. Each instructor will be provided with:

   One Situation (See Annex A, M 65-290-009-3)
   One Mimeo (See Annex A, M 65-290-009-2)
   One Mimeo (See Annex A, M 65-290-009-4)
   One Nursing Care Assignment Sheet (completed)

Format for Conducting PE

All information given below is in reference to one PE station and will be followed at each station.

1. During first 30 minutes 1 secondary instructor will be responsible for explaining charting Nursing Notes, TPR Graphic, Doctor's Orders, Nursing Care Plan and Nursing Care Assignment Sheet. This will be done according to guidelines set forth in mimeo 65-290-009-4. Instructors may refer students to examples shown in mimeo 65-290-009-2. The main emphasis will be placed on the Nursing Notes and TPR Graphic. A completed Nursing Care Assignment Sheet will be shown to students but not utilized during PE.

2. Following explanation, students will divide into 4 groups with one secondary instructor per group. Utilizing the situation provided, students will chart an Admission Note, record data on TPR Graphic, chart subsequent Nursing Notes and complete Nursing Care Plan (front page only)

Responsibilities of Secondary Instructors

1. Provide students with concise and accurate information
2. Give guidance to students in charting techniques throughout PE and supervise charting
3. Identify studetns who need further teaching in charting techniques
4. Maintain order and discipline at station

Responsibilities of Primary Instructors

1. Orient secondary instructors to PE format
2. Insure necessary equipment is provided at each station
3. Divid students into groups and assign to stations
4. Maintain control and discipline at all PE stations
5. Identify students who need further teaching in charting techniques
6. Serve as content expert for any questions arising concerning material presented
7. At intervals throughout PE, inform secondary instructors of the amount of alloted time remaining, to insure that time limitations are met.

Procedure Checklist

1. TPR Graphic
   - a. Appropriately stamps (or writes) information on forms using Identaplate
   - b. Fills in appropriate dates and times (top of form)
   - c. Records TPR and BP using correct symbols
   - d. Records TPR and BP using correct time
   - e. Records TPR and BP accurately
   - f. Records height and weight accurately in correct spaces
   - g. Records daily I&O accurately in appropriate spaces
2. Entries on Nursing Notes
   - a. Appropriately stamps information of forms using Identaplate
   - b. Dates and signs entries correctly
   - c. Records pertinent data in a clear and concise manner
   - d. Sign entry
   - e. Makes entries promptly after action has taken place or observation has been made
3. Entries on Doctor's Orders
   - a. Fills out administrative patient information accurately (bottom of form)
   - b. Signs initials in correct box under correct date when an action has been carried out (procedures only)
4. Entries on Nursing Care Plan
   - a. Fills out administrative information accurately (bottom of form)
   - b. Accurately enters data in appropriate place
   - c. Files care plan in Kardex

5. Entries on Individual Sick Slip

   a. Fills out or checks patient information

   b. Explains disposition indicated on sick slip to patient (duty, quarters, etc.)

   c. Explains disposition of slip slip to patient

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ACADEMY OF HEALTH SCIENCES, USA IM 65-290-009
NURSING SCIENCE DIVISION 057
Enlisted Instructional Branch

The Hospital Chart and Medical Records

In the medical field we cannot rely solely upon word of mouth to facilitate the nursing care of the patient or to communicate the patient's needs and progress. There are many reasons for keeping precise and accurate records for both a person's inpatient and outpatient activities. It provides a reliable means of communication, a basis for planning care, and documents evidence of a course of illness. Keeping precise and accurate up-to-date records on the proper forms facilitates patient care. Today we will discuss some of the major components of the hospital chart.

The TPR Graphic, SF 511, is one of the components of the hospital chart which you will be responsible for using. The TPR Graphic, when current, is maintained in the Kardex; that is, the Nursing Book Unit. When it is completed it will be filed in the patient's clinical record, the metal back chart. It is used to record physical responses of the patient, such as temperature, pulse, respirations, and Intake and Output. The TPR Graphic is a readily available form which gives the nursing care team up-to-date information concerning the patient at a glance.

Nursing notes are another component of the hospital chart which you are responsible for using. The nursing notes are maintained, when current, in the Kardex and when completed, in the patient's clinical record. The nursing notes are utilized for recording observations of pertinent data concerning that patient. When writing a nursing note the date is recorded in the first column and next to that is recorded the time which the observation is made. The appropriate date must be entered at the top of each column of nursing notes, even if the entry extends from one column to the next. Within the column, any date which differs from the date of the previous entry must be entered.

After the date and time, make the entry. Nursing notes document observations you have made concerning the patient. The note must be clear, concise, use proper terminology, and must be objective. Any personal opinions must be left out and only facts recorded. For instance, do not record, "The patient's in pain." If the patient said he was in pain, record "Patient states he is in pain," or if he looks like he hurts, "Patient appears to be in pain." Nursing notes should be as brief as possible and at the same time relay to other members of the health care team the information about the patient that they need to know. Such things as procedures, patient's response to procedures or medication, emotional responses, physical responses, and other pertinent observations should be recorded. Be sure to not only write notes, but also read the notes daily so that you will keep informed on the patient's progress.

After the entry, sign the note. The signature should include your name, rank, and position, for example, John Doe, PFC, 91C20. Every note should be signed unless you are making several entries within a short period of time and no one else makes entries in between these. In this case, it is only necessary to sign the last note of the series. Nursing notes, when properly written and utilized to their potential, will help the nursing care team to deliver quality care and meet the patient's needs in the most efficient manner possible.

Another component of the hospital chart you must be familiar with is Doctor's Orders. Doctor's Orders are maintained, when current, in the Kardex and when completed, are filed in the patient's clinical record. They are utilized to record orders for patient care and to record when that order has been carried out.

When initiating the Doctor's Order sheet, first, fill in all patient information at the bottom. The doctor will write the orders in the first column. Opposite each line of orders are dated columns and under each date are provided spaces depicting Day, Evening, and Night shifts. In these places you will enter your initials when the corresponding doctor's order has been carried out. If it is an ongoing order, such as dressing change 4 times a day, the order will be initialed every shift during which the procedure is carried out.

When an order is discontinued the doctor will date and sign his initials in the box next to the order marked, "disc. date." An order with an automatic stop date may be discontinued by the nurse. Check this portion of the order sheet to make sure the order is still in effect. Always check the doctor's orders before starting your shift and periodically throughout the shift so that you can keep up-to-date on the prescribed treatment for the patient.

The Nursing Care Plan is another component of the hospital chart with which you need to become familiar. It is maintained in a separate Kardex and is utilized to assist in the planning of individualized nursing care. When initiating the nursing care plan, first, fill in the patient information at the bottom. The information on the front of the Care Plan will then be filled in. This can be gathered by checking the doctor's orders, making observations of the patient, and interviewing the patient. Nursing Care Plans are very essential in providing the patient with a continuity of care.

All hospital forms must have patient identification on them. This must be either legibly written in blue-black or black ink, typed, or stamped with the patient Identaplate. The Identaplate will most commonly be used for this purpose in the hospital setting. It's purpose is to save time when identifying data and will be used on all medical records and laboratory reports.

When a patient is admitted to the hospital, a Clinical Record Cover Sheet which supplies identifying, administrative, and admission information will be made for him. It will be kept on the clinical record and on each patient who is admitted to the hospital or is carded for record only.

The Individual Sick Slip is not actually a part of the health record, but it is something you do need to become familiar with. The Individual Sick Slip is used for anyone who goes on sick call and is a means of communicating duty status. It is used to inform the commander of duty status. The Individual Sick Slip is issued by the orderly room and then presented at sick call to the clinic staff. After being seen, the medical officer will indicate the patient's disposition, that is whether he is admitted to the hospital, on quarters or to return to duty. The Individual Sick Slip is then returned to the unit commander. You may not necessarily return this personally to the commander but return it instead to the first sergeant.

The Nursing Care Assignment Sheet is also not a part of the hospital chart but is something with which you will be directly involved. Its purpose is to assign specific patients to specific nursing personnel. It is used to assign nursing care to personnel according to the ability of the individual health care member. The nursing care assignment sheet is made out by the head nurse and given to the individual prior to the beginning of the shift. The specific care each patient needs may be listed very explicitly on this sheet, or for the more experienced personnel, the specific care listed may be minimal. While caring for the patient throughout the day, the assignment sheet may be used to record observations of the patient. These observations must later be recorded in the nursing notes as the assignment sheet is not a permanent record. At the completion of the shift you must sign the assignment sheet and turn it in to the head nurse.

All active duty personnel have a Health Record maintained on them. The Health Record is a permanent, locally available record of health history and care. Its purpose is to assure the immediate accessibility of a record of medical care of military personnel. They are maintained at the facility to which the individual goes for medical care and are used to accompany the patient during any consultation or hospitalization. The Health Record must contain the SF 601 Immunization Record, SF 600 Chronological Record of Medical Care, SF 88 Report of Medical Examinations, and SF 93 Report of Medical History.

The Outpatient Record has basically the same purpose as the Health Record, that is, to assure the immediate accessibility of a record of care of non-military personnel. It will also accompany the patient during consultations or hospitalization.

During the past hour we have discussed the components of the hospital chart, the patient Identaplate and Clinical Record Cover Sheet. The Individual Sick Slip, Nursing Care Assignment Sheet, Health Record and Outpatient Record have also been discussed.

The accurate recording and constant updating of patient records is a necessity. It is not the most glamorous part of nursing but proper recording of observations will enable the health care team to provide the patient with a continuity of care.

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

M 65-290-009-1
057

The Hospital Chart and Medical Records

Objectives:

1. Identify the components of the hospital chart, its utilization and maintenance to include: TPR Graphic, Nursing Notes, Doctor's Orders, Nursing Care Plan.
2. State the use and/or purpose of the following: Identaplate, Clinical Record Cover Sheet, Individual Sick Slip, Nursing Care Assignment Sheet, Health Record and Outpatient Record.
3. Given clinical and administrative information make the proper entry on the TPR Graphic, Nursing Notes, Doctor's Orders, Nursing Care Plan, and Individual Sick Slip.

NOTES

A. Components of the Hospital Chart

1. TPR Graphic

a. Maintenance

(1)

(2)

b. Utilization

(1)

(2)

2. Nursing Notes

a. Maintenance

(1)

(2)

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b. Utilization

(1)

(2)

(3)

3. Doctor's Orders

a. Maintenance

(1)

(2)

b. Utilization

(1)

(2)

(3)

4. Nursing Care Plan

a. Maintenance:

b. Utilization

(1)

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(2)

B. Identaplate

1. Purpose:

2. Use:

C. Clinical Record Cover Sheet

1. Purpose:

2. Use:

D. Individual Sick Slip

1. Purpose:

2. Use:

a.

b.

c.

E. Nursing Care Assignment Sheet

1. Purpose:

2. Use:

    a.

    b.

    c.

F. Health Record

1. Purpose:

2. Use:

3. Contents:

    a.

    b.

    c.

    d.

G. Outpatient Record

1. Purpose:

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2. Use:

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

M 65-290-009-2
057

Nursing Notes

1. Admission note contains vital information identifying the patient and giving information concerning reason for admission and condition when received on ward. Must contain: age, sex, hour received (via ambulation, w/c, litter, etc.), allergies, vital signs, height, weight, complaints, external appliances if any (IV, catheter, etc.).

2. A line is drawn through any blank spaces at the end of the note. This insures that other individuals do not add onto the entry. Never skip lines between entries! Entries must be signed to include name, rank and MOS.

3. Routine nursing notes should be precise, clear and communicate pertinent information to other nursing care team members. Notes should be statements of fact or observations. Subjective statements such as, "the patient looks bad" should be avoided. Stick to facts or observations such as "patient appears to be in pain" or "patient states he is experiencing intermittent stabbing pain over op site." Description of pain should include duration, location and intensity.

4. When a patient is received back on the ward after surgery the note should contain information of patient's mental and physical status: when received, how, complaints, condition of dressing (if any), if voided and amount, IV or other appliances (foley, chest tube, NG, oxygen), if taking fluids (unless NPO), vital signs, special care give (CTDB, blow bottles, etc.).

5. Notes recording drainage of any kind (urine, blood, sputum, etc.) should include amount (small, moderate, large, or number of cc's) and a description (blood-tinged, foul-smelling, purulent, clear yellow, bright red, etc.).

6. If an error is made it should be marked through with a single line and your initials placed over it.

M 65-290-009-2
0 57

Y.O. - year old

PTA - Prior to admission

C/O - Complaint of

H&P - History and Physical

P.O. - by mouth

NPO - Nothing my mouth

RR - Recovery room

@ - at

$\bar{c}$ - with

HOB - head of bed

D/C'd - discontinued

PRN - as needed

ii - two

MOM - Milk of Magnesia

RTC - return to clinic

q.s. - quantity sufficient

1977

DATE	3
[illegible]	cont. yellow urine. [illegible]
	NFS — James Harris PFC 91C20
	0730: Nembutal 100mg IM given in
	(R) gluteal region and Vistaril 50mg
	IM in (L) gluteal region pre-op per
	order Dr. Jones. — Ellen Linnemann Cpt ANC
	0935: To OR via litter TPR 98²-68-16
	BP 118/74 — Bill Marshall E2 91C20
	1130: Returned from RR via litter.
	Pt awake and alert c̄ c/o throbbing
	pain in throat. Ice pack to neck
	and humidifier @ bedside. Taking
	small amounts po fluids c̄
	encouragement. Small amount

DATE	4
5 July	blood-tinged sputum noted.
⑤	HOB elevated. Has not voided.
	Cough and deep breathing c̄
	encouragement. TPR: 98⁴-70-18
⑥	BP 116/72. IV D5-RL ~~[illegible]~~ patent
	and infusing well in (R) hand.
	— Edward Small SP5 91C20
	1145: Demerol 50 mg IM given in
	(L) gluteal region for c/o severe
	throat pain. Ellen Linnemann Cpt AN
	1200 Pain med appears effective
	No c/o discomfort. Took small
	amount clear liq diet @ lunch.
	Unable to void. Fluids

1977

DATE	5
July	(cont) encouraged Mike Howard E-2 91C20
	1445 Voided 300cc clear yellow
	urine. IV D/C'd. Has Chloraseptic
	spray PRN for c/o mild throat
	discomfort. Appears to be taking
	po fluids well. Small amount
	blood tinged sputum noted —
	— Mike Howard E-2 91C20
	[illegible]345: Had Demerol 50mg IM in
	(R) gluteal region for c/o mod. throat
	pain. Tolerated liq diet well
	Using urine bottle. Bill Marshall [illegible]

DATE	6
8 July	1930 Pain med. appears effective.
	Appears to be resting comfortably @
	this time. Jane Martin 2Lt ANC
9 July	0645 Appears to have slept well
	throughout the night. Taking p.o.
	fluids well. [illegible] to the
	pt. — James [illegible] E-2 91C2[illegible]
	0730 Tolerated full liq diet well
	Continues to use Chloraseptic spray
	PRN for c/o mild throat pain
	— James Harris PFC 91C2
	1100 Peri-Colace Tabs II given for

NAME JOHNSON, PAUL E-3
390-87-6718 3rd Bn E Co

REGISTER NUMBER
3

M 65-290-009-2

1977 057

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DATE	7	DATE	8
9 July	(cont) c/o mild throat pain MOM 30cc	10 July	0900 Dr. Smith in to see pt. Pt
	p.o. given for c/o constipation x 2 days.		offers no c/o discomfort. ———
	——— Ellen Simmerman Cpt ANC		——— Paul Marshall E-2 91C
	1800 Appears to have tolerated soft		1120: Pt discharged to home via
	diet well @ dinner. Appears to be		ambulation. To RTC 1 week
	resting comfortably. Joyce Cramer SP5 91C20		to see Dr. Smith. Taking soft d
	2200 Pt appears to be resting		well. Voiding q.s. No c/o
	comfortably. Had large, soft		discomfort. TPR 98⁶-72-16 BP
	brown BM this PM. Taking p.o.		——— Ellen Simmerman Cpt
	fluids well. Up ad lib		
	throughout the evening.		
	——— Gary Holbrook PFC 91C20		
10 July	0715: Pt states he slept well		
	Tolerating soft diet well — Paul Marshall E2 91C20		

INSTRUCTIONS
1. This form overrides doctor's orders DA Form 4256.
2. Patient's name must be inserted under columns (1) and (5) for microfilming identification.
3. Fold on this scoring and crease firmly

DA FORM 4336 REPLACES DD FORM ..., WHICH MAY BE USED.

NURSING NOTES

4. Fold back on this scoring and crease firmly

1977

DATE	1	DATE	2
7 July	0900 21 y.o. white male E3 admitted	7 July	pt. concerning surgery ———
	to ward via ambulation. Pt		——— John Marshall PFC 9
① —	Tonsillectomy in AM. Lab work done		2200 Dalmane 30 mg PO given for
	PTA. Pt offers no c/o discomfort.		sleep. Placed on NPO and counseled
	States he has no known allergies.		concerning this — Joe Thomas SP4 9
	TPR: 98⁶-72-18 BP 124/82 Ht 5'10"	③ —	2330 Pt states he is unable to sle
	wt 180lbs Pt oriented to ward		Dalmane 30 mg P.O. given per
	procedure and surroundings.		order Dr. Smith. Mary Green
② —	——— John Marshall PFC 91C20	8 July	0030 Med appears effective. Pt
	1500 Dr. Smith in to see patient.		appears to be sleeping. Mary Green
	H&P done and counseled pt. for		0130 Pt states he slept well.
	surgery. Anesthesia also counseled		[illegible] Voided [illegible] clear

NAME REGISTER NUMBER

115

CPT E.Simmerman

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

M 65-290-009-3
057

Practical Exercise Situation

Patient Information

Jack Ackerman
37 y.o. SP6 (E6) Height: 5' 8"
SSAN: 123-45-6789 Weight: 175 lbs
Co B, 3d Bn
91C30 Clinical Specialist
Married c̄ two dependents
Wears contact lens
Allergic to PCN and ASA
Admitted from ER via litter c̄ DX R/O peptic ulcer

Patient Complaints

Frequent sharp pain in upper stomach lasting approximately five minutes.
Nausea, vomiting x 2 days
Loose, dark stools x 2 days

Corpsman Observations of Signs and Symptoms

Bright, red blood noticed in emesis.
Patient states that the pain is relieved by eating.
Patient further indicates that he smokes two packs of cigarettes and drinks one pint of ETOH every day.
VS T-99 P-104 R-18; BP 100/60

Doctor's Orders

BR c BRP
Bland Diet
Maalox AC PC, HS and PRN
Guaiac Stools
IV D5W TKO

M 65-290-009-3
057

FOLLOWING DAY

At 0800 you enter Specialist Ackerman's room. He tells you that he still has sharp pains in his upper stomach area, lasting approximately 10 minutes and is somewhat relieved by taking Maalox. He tells you his arm with the IV running, hurts. When checking the IV, you notice swelling around the entry site. You stop the flow of the IV and notify the head nurse. The head nurse restarts the IV in Ⓛ arm.

Vital signs at 1000 hourse are T-98.8°, P-84, R-18; BP 108/80.

Upon entering the patient's room, at noon, to remove his lunch tray you notice that he didn't eat any of his lunch. When you encourage him to eat, he tells you that he is not hungry.

Patient had a large, loose, dark BM at 1300. Guaiac test done with positive results.

Upon entering the patient's room at 1400 to take his vital signs, he suddenly vomits approximately 300cc of fluid which contained a moderate amount of bright, red blood. His vital signs are T-99°, P-124; R-20; BP 80/60.

CPT E.Simmerman
M 65-290-009-4
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

The Hospital Chart and Medical Records

I Nursing Notes

- A. Format
  - 1. Date in first column
  - 2. Time
  - 3. Entry
  - 4. Signature (Name, Rank, and MOS)
  - 5. Patient's identification on front and back of form
- B. Entry
  - 1. Use correct terminology
  - 2. Must be legible
  - 3. Pertinent observations of patient's condition
    - a. Objective observations
    - b. Relative observations to Nursing Care
      - (1) Mental and physical status
      - (2) Symptoms
      - (3) Response to therapy
      - (4) Changes in condition
  - 4. Entries must be clear concise and to the point
  - 5. Don't skip lines between entries
  - 6. Errors will be corrected by drawing a single line through error and placing your initials over error.

7. If consecutive entries are made by one person in a brief time frame (10-12 minutes), you need to sign only the last entry.

8. Date must appear at top of each column of notes.

II. Doctors Orders

A. Patient information at top and bottom of front page. Use identaplate at top of page.

B. Orders signed off in appropriate column under correct date.

C. Disc Date Box

1. Doctor initials and dates if order is no longer in effect

2. Nurse may discontinue automatic stop orders

D. Read orders prior to administering patient care

E. Check periodically during shift

F. Post-op orders

1. Become effective after surgery

2. All previous orders are discontinued

III. TPR Graphic

A. Patient information at bottom of both sides. Use identaplate

B. Record height and weight in appropriate spaces

C. Fill in top of form

1. Current dates to include month and year

2. Post-op dates if applicable

a. DOS (day of surgery)

b. Day following DOS is numbered 1 (1st post-op day)

3. Hospital Day
    - a. Adm, 1-2-3-etc.
    - b. Continuous throughout hospital stay

4. Times
    - a. May vary from ward to ward
    - b. First half of block is for a.m. second half for p.m.
    - c. In this course 2-6-10-2-6-10 will be used

D. Record Temp

1. Use solid dot opposite appropriate temp
2. Connect to previous temp with solid line
3. Place (A) over dot if taken axillary
4. Place (R) over dot if taken rectally

E. Record respirations in space at bottom of column

G. Record blood pressure

1. Use X for diastolic and systolic valves
2. Connect X's with solid line
3. Record valve at bottom of column - usually in a.m. and p.m.

H. Record all vital signs under correct date and time.

I. Other information may be recorded at bottom of form - such as Intake and Output

IV. Nursing Care Plan

A. Fill in patient information at bottom of form

B. Fill in front of Care Plan using information obtained from doctor's orders, observation, and patient interview

V. Nursing Care Assignment Sheet

A. Given to personnel prior to report - made out by head nurse

B. Assigns patient care according to skill level

C. May use to note observations during shift before recording in Nursing Notes

D. Sign and return to head nurse at end of shift

SP6 Bobby E. Marr
LP 65-340-010
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Temperature, Pulse, Respirations and Blood Pressure (5 Hours)

COURSES PRESENTED TO 300-91C20 Clinical Specialist (Primary Technical)

PLACE: Classroom and PE area

REFERENCES:

TM 8-230, chap 5, pp 5-49 thru 5-58.
Brunner, Lillian S. & Suddarth, Doris S. (2) Textbook of Medical-Surgical Nursing. 3d ed. Philadelphia: J.B. Lippincott Co., 1975, pp 447.
HRET, chap 10.
Lewis, Luverne Wolff. Fundamental Skills in Patient Care. Philadelphia: J.B. Lippincott Co., 1976, pp 111-138.
Massachusetts General Hospital, Department of Nursing. Massachusetts General Hospital Manual of Nursing Procedures. Boston: Little, Brown & Co., 1975, pp 57-64.

STUDY ASSIGNMENT: None

STUDENT UNIFORM AND EQUIPMENT: Not applicable

TOOLS, EQUIPMENT, AND MATERIALS: Handout M 65-340-010-1

PERSONNEL: Twenty (20) instructors (Nursing Science Division)

INSTRUCTIONAL AIDS:

TROOP REQUIREMENTS: Not applicable

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: D (1st hour); PE (2nd - 4th hour)

I. INTRODUCTION (2 min)

A. Opening Statement: Vital signs are a very important part of health care. As future 91C20's it is essential that you take and record vital signs accurately and properly.

B. Objective

1. Describe three methods of measuring body temperature and the normal reading for each.

2. Given the proper equipment, correctly measure to the exact degree, and record temperature.

3. Locate, measure (within four beats) and record a radial, apical, popliteal and pedal pulse on an individual.

4. Measure (within two breaths) and record respirations.

5. Given appropriate equipment, measure (within six millimeters of mercury) and record blood pressure.

6. Demonstrate procedure for obtaining a popliteal blood pressure.

C. Class Procedure and Lesson Tie-in

This is a one hour demonstration which will be followed by four hours of practical exercise.

II. EXPLANATION/DEMONSTRATION (45 min)

A. Equipment

1. Glass thermometer, chemical and Ivac

2. SF511 (TPR sheet)

3. Watch with a second hand

4. Sphygmomanometer (B/P cuff)

5. Stethoscope

B. Three Methods of Measuring Body Temperature and the Normal Reading for Each.

1. Oral temperature

a. Wash hands and explain procedure to patient

b. Obtain equipment

c. Check level of mercury in the thermometer

d. Shake mercury down

e. Place thermometer in patient's mouth

f. Leave thermometer in place for accurate recording for 3 minutes.

   g. Remove thermometer

   h. Read thermometer

   i. Replace equipment

   j. Record temperature on SF511

   k. Wash hands

NOTE: Glass thermometer will lower reading if patient is on oxygen.

2. Rectal temperature

   a. Wash hands and explain procedure to patient

   b. Obtain equipment

   c. Position patient in Sim's position

   d. Lubricate and insert thermometer in rectum 1 1/2 in.

   e. Hold thermometer in place

   f. Leave thermometer in for 2 minutes

   g. Remove and read thermometer

   h. Record temperature (Ⓡ over temp)

   i. Wash hands

3. Axillary Temperature

   a. Wash hands and explain procedure to patient

   b. Obtain equipment

   c. Check level of mercury in the thermometer

   d. Shake down mercury

   e. Place thermometer in patient's axilla

   f. Leave thermometer in place for 10 minutes

   g. Remove thermometer and read

   h. Record temperature (ⓐ over temp.)

   i. Wash hands

4. Normal temperature readings

   a. Oral - 98.6 F

   b. Rectal - 99.6 F

   c. Axillary - 97.6 F

C. Pulse

1. Definition:

   Pulse is the alternate contraction and dilation of the arteries caused by pumping of blood by the heart.

2. Terminology and normal value

   a. Tachycardia - greater than 100

   b. Bradycardia - less than 60

   c. Pulse deficit - difference between apical and radial pulse

3. Pulse sites

   a. Radial - anterior lateral aspect of distal forearm

QUESTION: For what length of time should you take a pulse for accuracy as stated in class?

ANSWER: 60 seconds

   b. Temporal - in front of ear

   c. Carotid - side of neck

   d. Femoral - in groin

   e. Dorsalis pedis - top of foot

   f. popliteal - posterior knee

4. Methods

   a. Sitting

   b. Standing

   c. Lying

5. Techniques
    a. Locate artery to be used
    b. Place first three fingers on artery and apply gentle pressure
    c. Each dilation count one beat
    d. Count for full 60 seconds
6. Observations
    a. Rate: number of beat per minutes
    b. Rhythm: regular or irregular
    c. Force: strong or weak
7. Apical pulse
    a. Place stethescope below and to the right of left nipple
    b. Count beats of heart for full minute

D. Respirations

1. Definition:

    Respiration is the expansion and contraction of lungs during breathing
2. Terminology
    a. Apnea - cessation of breathing
    b. Dyspnea - labored or difficult breathing
    c. Cheyne-Stokes - periods of breathing alternating between Dyspnea and Apnea.
3. Technique
    a. Have patient lying or sitting
    b. Count rise and fall of chest as one respiration
    c. Count for one full minute

4. Observations

   a. Rate - number per minute

   b. Rhythm - regular or irregular

   c. Depth - Shallow or deep

E. Blood Pressure

1. Definition:

   The pressure exerted by the blood on the wall of any vessel.

2. Terminology

   a. Systolic pressure - the highest point reached by the contraction of the heart.

   b. Diastolic pressure - the lowest point to which reached by the contraction of the heart.

3. Technique

   a. Wash hands and explain procedure to patient

   b. Position patient either sitting or lying

   c. Wrap cuff around arm neatly so each wrap is on top of the other and gauge is facing you.

   d. Place stethoscope earpieces in your ears

   e. Palpate for brachial artery and place diaphragm over artery

   f. Close valve and pump air. Pump up to 180mm or 20 degrees higher than the last beat you hear.

   g. Open valve slowly, let needle or mercury descend slowly

   h. Note the line at which you hear first beat (systolic)

   i. Let air continue to be released and note last beat heard (diastolic) or the change

j. Repeat process to check accuracy

k. Remove cuff

l. Record on patient chart

m. Wash hands

F. Popliteal Blood Pressure

1. Locate popliteal artery

2. Place blood pressure cuff around lower 1/3 of thigh

3. Follow same procedure as for brachial blood pressure

QUESTION: What is the name of the first beat heard on a blood pressure?

ANSWER: Systolic

G. Questions from students

III. SUMMARY (3 min)

A. Review of Main Points

1. Three methods of measuring body temperature and normal reading.

2. Demonstrated 6 methods of taking pulse

3. Measured respirations

4. Demonstrated brachial and popliteal blood pressure

B. Closing Statement: The preceding material will help you in your everyday job performance. It is essential that these techniques be used properly and correctly.

ANNEX A
INSTRUCTIONAL AIDS

Equipment

Oral thermometers	120
Ivac thermometer covers	500
Ivac thermometers	3
Instructoral stethescopes	10
Stethescopes	20
Blood pressure cuffs	15
Rectal thermometers	15
SF511	125
Alcohol prep pads	5
4 X 4 gauze	30
Temperature tray	12
K-Y jelly tube	5

ANNEX B

Student Flow

A. Students will complete this area and then go directly to area B.

B. Students in area B will complete this area and go directly to area C.

C. Students in area C will complete this area and go directly to area A.

This rotation will occur twice. At the end of the two rotations there will be a 30 minute reteach session at station individuals are having trouble with.

ANNEX C

Station Evaluation

1. Area A - Temperature

A. Ivac

(1) Wash hands and explain procedure to patient

(2) Obtain equipment

(3) Place probe cover on probe correctly

(4) Place probe in patient's mouth correctly

(5) Read temperature correctly

(6) Record temperature correctly

(7) Wash hands

B. Oral

(1) Wash hands and explain procedure to patient

(2) Obtain equipment

(3) Check level of mercury in the thermometer

(4) Shake mercury down

(5) Place thermometer in patient's mouth

(6) Leave in place for 3 minutes

(7) Remove and read thermometer

(8) Replace equipment

(9) Record temperature

(10) Wash hands

C. Rectal

(1) Wash hands and explain procedure to patient

(2) Obtain equipment

(3) Position patient in Sim's position

- (4) Lubricate and insert thermometer in patient's rectum 1 1/2 inches
- (5) Leave in place for 2 minutes
- (6) Remove and read thermometer
- (7) Record temperature correctly
- (8) Wash hands

D. Axillary

- (1) Wash hands and explain procedure to patient
- (2) Obtain equipment
- (3) Check level of mercury in the thermometer
- (4) Shake mercury down
- (5) Place thermometer in patient's axilla area
- (6) Leave thermometer in place for 10 minutes
- (7) Remove thermometer and read
- (8) Record temperature correctly
- (9) Wash hands

2. Area B - Pulse

A. Apical Pulse

- (1) Wash hands and explain procedure to patient
- (2) Obtain equipment
- (3) Locate apical pulse
- (4) Count beats for full 60 seconds
- (5) Read within 4 beats
- (6) Record pulse correctly
- (7) Wash hands

B. Radial Pulse

(1) Wash hands and explain procedure to patient

(2) Locate radial pulse

(3) Count beats for full 60 seconds

(4) Read within 4 beats

(5) Record pulse correctly

(6) Wash hands

C. Pedal Pulse

(1) Wash hands and explain procedure to patient

(2) Locate pedal pulse

(3) Count beats for full 60 seconds

(4) Read within 4 beats

(5) Record pulse correctly

(6) Wash hands

D. Popliteal Pulse

(1) Wash hands and explain procedure to patient

(2) Locate popliteal pulse

(3) Count beats for full 60 seconds

(4) Read within 4 beats

(5) Record pulse correctly

(6) Wash hands

3. Area C - Blood Pressure

A. Popliteal Blood Pressure

(1) Wash hands and explain procedure to patient

(2) Obtain equipment

(3) Position patient properly

(4) Wrap cuff properly

(5) Palpate for popliteal artery

(6) Pump cuff up to 180 mm or 20 degrees higher than the last beat you hear

(7) Open valve slowly

(8) Note first beat (systolic)

(9) Continue to release air until you hear last beat and note (diastolic) or the change

(I0) Repeat procedure to check accuracy

(11) Remove cuff

(12) Record correctly on patient's chart

(13) Wash hands

B. Brachial Blood Pressure

(1) Wash hands and explain procedure to patient

(2) Obtain equipment

(3) Position patient properly

(4) Wrap cuff properly

(5) Palpate for brachial artery

(6) Pump cuff up to 180mm or 10 degree's higher than the last beat you hear

(7) Open valve slowly

(8) Note first beat (systolic)

(9) Continue to release air until you hear last beat and note (diastolic)

(10) Repeat procedure to check accuracy

(11) Remove cuff

(12) Record correctly on patient's chart

(13) Wash hands

C. Respirations

(1) Wash hands and explain procedure to patient

(2) Position patient

(3) Count respirations for 60 seconds

(4) Record respirations correctly

(5) Wash hands

SP6 Bobby E. Marr

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

M 65-340-010
057

Temperature, Pulse, Respirations, and Blood Pressure

Objectives:

1. Describe three methods of measuring body temperature and the normal reading for each.

2. Given the proper equipment, correctly measure to the exact degree, and record temperature.

3. Locate, measure (within four beats) and record a radial, apical, popliteal and pedal pulse on an individual.

4. Measure (within two breaths) and record respirations.

5. Given appropriate equipment, measure (within six millimeters of mercury) and record blood pressure.

6. Demonstrate procedure for obtaining a popliteal blood pressure.

A. Equipment

1. Glass thermometer, chemical and Ivac

2. SF-511 (TPR Sheet)

3. Watch, with a second hand

4. Sphygmomanometer (BP cuff)

5. Stethoscope

B. Three Methods of Measuring Body Temperature and the Normal Reading for Each

1. Oral temperature

   a. Wash hands and explain procedure to patient

   b. Obtain equipment

   c. Check level of mercury in the thermometer

   d. Shake mercury down

   e. Place thermometer in patient's mouth

   f. Leave thermometer in place for accurate recording, 3 minutes

   g. Remove the thermometer

h. Read thermometer

i. Replace equipment

j. Record temperature

k. Wash hands

NOTE: Glass thermometer will lower reading if patient is on oxygen.

2. Rectal temperature

a. Wash hands and explain procedure to patient

b. Obtain equipment

c. Position patient in Sim's position

d. Lubricate and insert thermometer in patient's rectum (1-1/2 inches)

e. Hold thermometer in place

f. Leave thermometer in for 2 minutes

g. Remove and read thermometer

h. Record temperature(Ⓡ over temp)

i. Wash hands

3. Axillary temperature

a. Wash hands and explain procedure to patient

b. Obtain equipment

c. Check level of mercury in the thermometer

d. Shake down mercury

e. Place thermometer in patient's axillavea

f. Leave thermometer in place for 10 minutes

g. Remove the thermometer and read

h. Record temperature (ⓐ over temp)

i. Wash hands

4. Normal temperature readings
    a. Oral - 98.6 F
    b. Rectal - 99.6 F
    c. Axillary - 97.6 F

C. Pulse

1. Definition: Pulse is the alternate contraction and dilation of the arteries caused by pumping of blood by the heart.

2. Terminology and normal valve
    a. Tachycardia - greater than 100
    b. Bradycardia - less than 60
    c. Pulse deficit - difference between apical and radial pulse

3. Pulse sites
    a. Radial - anterior lateral aspect of distal forearm
    b. Temporal - in front of ear
    c. Carotid - side of neck
    d. Femoral - in the groin
    e. Dorsalis pedis - top of foot
    f. Popliteal - posterior knee

4. Methods
    a. Sitting
    b. Standing
    c. Lying

5. Techniques
    a. Locate artery to be used
    b. Place first three fingers on artery and apply gentle pressure
    c. Each dilation, count one beat
    d. Count for full 60 seconds

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6. Observations

    a. Rate: number of beats per minute

    b. Rhythm: regular or irregular

    c. Force: strong or weak

7. Apical pulse

    a. Place stethoscope below and to the right of left nipple

    b. Count beats of heart for full minute

D. Respirations

1. Definition: Respiration is the expansion and contraction of lungs during breathing

2. Terminology

    a. Apnea - cessation of breathing

    b. Dyspnea - labored or difficult breathing

    c. Cheyne-Stokes - periods of breathing alternating between dyspnea and apnea

3. Technique

    a. Have patient lying or sitting

    b. Count rise and fall of chest as on respiration

    c. Count for one full minute

4. Observations

    a. Rate - number per minute

    b. Rhythm - regular or irregular

    c. Depth - shallow or deep

E. Blood Pressure

1. Definition: The pressure exerted by the blood on the wall of any vessel.

2. Terminology

    a. Systolic pressure - the highest point reached by the contraction of the heart.

    b. Diastolic pressure - the lowest point to which reached by the contraction of the heart.

3. Technique

    a. Wash hands and explain procedure to patient

    b. Position patient either sitting or lying

    c. Wrap cuff around arm neatly so each wrap is on top of the other and gauge is facing you

    d. Place stethoscope earpieces in your ears

    e. Palpate for brachial artery and place diaphragm over artery

    f. Close valve and pump air, pump up to 180mm or 10 degrees higher than the last beat you hear

    g. Open valve slowly, let needle or mercury descend slowly

    h. Note the line at which you hear first beat (systolic)

    i. Let air continue to be released and note last beat heard (diastolic) or the changes

    j. Repeat process to check accuracy

    k. Remove cuff

    l. Record on patient's chart

    m. Wash hands

F. Popliteal Blood Pressure

1. Locate popliteal artery

2. Place blood pressure cuff around lower 1/3 of thigh

3. Follow same procedure as for brachial blood pressure

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CPT C. Splichal
ACADEMY OF HEALTH SCIENCES, USA LP 65-340-011
NURSING SCIENCE DIVISION 057

Signs and Symptoms (3 hours)

COURSES PRESENTED TO: Clinical Specialist (Primary Technical) Course, 300 91C20

PLACE: Classroom and Practical Exercise Laboratory

REFERENCES:

TM 8-230 Chap 5, pp 5-51 thru 5-52.
Byers, Virginia. Nursing Observation. 2d ed. Dubuque: Wm. C. Brown Co. Pub., 1973.
MacBryde, Cyril M. and Blacklow, Robert S. Signs and Symptoms: Applied Pathologic Physiology and Clinical Interpretation. 5th ed. Philadelphia: J.B. Lippincott Co., 1970.
Thompson, Ella M. and Rosdahl, Caroline B. Textbook of Basic Nursing. 2d ed. Philadelphia: J.B. Lippincott, 1973.

STUDY ASSIGNMENT: Read TM 8-230, pp 5-51 thru pp 5-52; para 5-42.

STUDENT UNIFORM AND EQUIPMENT: Not applicable

TOOLS, EQUIPMENT, AND MATERIALS: Overhead projector; M 65-340-007-1 beginning of class

PERSONNEL: One (1) ANC instructor and nine (9) 91C instructors (Nursing Science Division)

INSTRUCTIONAL AIDS: Transparencies, T 65-340-007-1 thru 4

TROOP REQUIREMENTS: Not applicable

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: Lecture, Practical Exercise

FIRST HOUR

I. INTRODUCTION (6 min)

A. Opening Statement: In order for the clinical specialist to meet the responsibilities that he has assumed, he will need to develop certain basic skills. One of these skills is observation of the patient. Observation can be used in various ways ranging from simply seeing an act or object

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to an understanding that enables one to make an interpretation or draw a conclusion. Observation is a skill that has to be developed with practice, we will try to help you develop this skill with this block of instruction. Why are we talking about observation when the title of this class is signs and symptoms? Because observation is taking notice of signs and symptoms. The patient, physician and nursing staff depend upon our ability to perceive signs and symptoms which may indicate a change in physical status that may necessitate a change in treatment or care.

B. Objectives:

1. Define objective signs and subjective symptoms and give an example of each.

2. Discuss observation as it relates to signs and symptoms including non-verbal communication.

3. Given a list of signs (cough, respiration, skin color, emesis, edema, hemorrhage, body temperature, pulse, blood pressure, pupils of the eyes, level of consciousness, and movement), identify objective words which could be written in a patient's chart to describe the specific sign.

4. Given a list of subjective symptoms (pain, nausea, headache, blurred vision, deafness, numbness and ringing in the ears), identify through use of patient questioning, location, duration, intensity, occurrence and associated symptoms, if any, and record appropriately in Nursing Notes.

C. Class Procedure and Lesson Tie-in

This block of instruction is intended to give you a basic ability to understand and apply observational skills in relation to signs and symptoms. This lecture will be followed by a film and an hour of practical exercise.

II. EXPLANATION (30 min)

NOTE: Presentation supported by transparencies

A. Objective Signs and Subjective Symptoms

1. Objective signs

a. Definition: Evidence that is observable by the physician, nurse or patient. Evidence that can be detected by one of the senses.

b. Example: Rash

QUESTION: What are other examples of objective signs?

ANSWER:

(1) Cough

(2) Temperature

(3) Pulse

(4) Respiration

(5) Blood pressure

(6) Hemorrhage

2. Subjective symtpoms

a. Definition: Evidence as perceived by the patient; a change in a patient's condition indicative of some bodily or mental state

b. Example: pain

QUESTION: What are other examples of subjective symptoms?

ANSWER:

(1) Nausea

(2) Headache

(3) Blurred vision

(4) Deafness

(5) Numbness

B. Observation

1. Signs

a. Example: Pulse

(1) Rate

(2) Quality

        - (3) Rhythm
- 2. Symptoms
    - b. Example: Pain
        - (1) Related by patient
        - (2) Nurse determines
            - (a) External manifestation
            - (b) Location
            - (c) Duration
            - (d) Intensity
            - (e) Emotional tie-in
- 3. Interpretation or conclusion
- 4. Non-verbal communication
    - a. Appetite
    - b. Attitudes: Emotional response
    - c. Eye contact
    - d. Voice and speech
    - e. Body language
        - (1) Posture
        - (2) Body movements
        - (3) Sleep

C. Signs

- 1. Cough
    - a. Productive
    - b. Hacking
    - c. Persistent

2. Respiration
    a. Depth: shallow
    b. Dyspnea: labored
    c. Apnea: absence; Cheyne Stokes
3. Skin color
    a. Cyanotic: blue
    b. Ischemic: blanched
    c. Discoloration
        (a) Purpera: spot
        (b) Ecchymosis: bruise
4. Emesis
    a. Color
        (1) Yellow
        (2) Green: bile
        (3) Red: blood
    b. Composition
        (1) Blood: dark brown
        (2) Mucous
        (3) Partially digested food
    c. Volume

NOTE: Vomiting may occur spontaneous like projectile vomiting or preceded by retching; contraction of muscles of stomach wall.

5. Edema
    a. Degree
        (1) Mild

        - (2) Moderate
        - (3) Severe
    - b. Pitting
- 6. Hemorrhage
    - a. Source
        - (1) Venous: dark red
        - (2) Arterial: bright red
    - b. Amount
        - (1) Small
        - (2) Moderate
        - (3) Large

NOTE: Hemorrhage may cause elevation in pulse rate and quality, drop in blood pressure, change in color of skin to ashen

- 7. Body temperature
    - a. Elevated
    - b. Normal
    - c. Below normal
- 8. Pulse
    - a. Rate
        - (1) Bradycardia: slow
        - (2) Tachycardia: fast
    - b. Rhythm
        - (1) Galloping
        - (2) Dicrotic: double
        - (3) Regular

- c. Quality
  - (1) Bounding
  - (2) Weak
  - (3) Thready
- 9. Blood pressure
  - a. Hypertensive
  - b. Hypotensive
- 10. Pupils of eyes
  - a. Dilated
  - b. Constricted
  - c. Reactive: to light
  - d. Equal
  - e. Fixed
- 11. Level of consciousness
  - a. Alert and awake
  - b. Coma
  - c. Obtunded (dull)
- 12. Movement
  - a. Coordination
  - b. Hemiplegia

D. Patient Questioning

- a. Where
- b. How long
- c. How bad
- d. How often
- e. What else happens

NOTE: Avoid asking questions like could you or would you.

E. Questions From Students

III. SUMMARY

A. Review of Main Points

1. Defined objective signs and subjective symptoms and gave an example of each.
2. Observation as it relates to signs and symptoms.
3. Signs and how they can be described.
4. Questioning patients to determine the extent of subjective symptoms.

B. Closing Statement: When we talk about signs and symptoms we are also talking about observation. Without observation we would not be able to detect a problem or change, thus, making the provision of medical care impossible.

SECOND HOUR

I. INTRODUCTION (2 min)

A. Observation is essential to the nursing staff. It is one of the basic skills that are routinely used in the day-to-day administration of nursing care. What does a patient observe about the nursing staff? What does he see, hear, or feel when he is a patient and he relies upon us to meet his needs.

B. Objectives

1. Define objective signs and subjective symptoms giving an example of each.
2. Discuss observation as it relates to signs and symptoms including non-verbal communication.
3. Given a list of signs (cough, respiration, skin color, emesis, edema, hemorrhage, body temperature, pulse, blood pressure, pupils of the eyes, level of consciousness and movement), identify objective words which could be written in a patient's chart to describe the specific sign. Given a list of

subjective symptoms (pain, nausea, headache, blurred vision, deafness, numbness and ringing in the ears), identify through use of patient questioning, location, duration, intensity, occurrence and associated symptoms, if any, and record in Nursing Notes.

C. Lesson Procedure and Lesson Tie-In

Second hour of a block of instruction on signs and symptoms

II. EXPLANATION

A. Videotape (57 min)

1. Introduction

a. "A Person in Our World" (50 min)

b. Points to be observed

(1) how the patient sees the health care team

NOTE: Elaborate on point number two

(2) try to develop a knowledge of how a patient reacts to the people in his environment.

2. Showing of Videotape CME 313

3. Questions from students.

NOTE: Questions directed to students rhetorical in nature:

(1) What did you feel?

(2) How will it affect the quality of care you give?

(3) What points did it bring to your attention about your interaction with patients?

(4) Will it make a more humane being out of you?

III. SUMMARY (3 min)

A. Review of Main Points

1. How the patient sees the health care team.

2. How the patient reacts to you by your action, intended or not.

B. Closing Statement: It is my hope after viewing this film that we as health care team members will try to show concern for the patients for whom we care. This film illustrates the fact that a patient is still a person with feelings, needs, and desires and not just a disease.

THIRD HOUR

I. INTRODUCTION (2 min)

A. Opening Statement: We have discussed observation of signs and symptoms now we will learn to develop our observational skills.

B. Objectives

1. Given a list of signs (cough, respiration, skin color, emesis, edema, hemorrhage, body temperature, pulse, blood pressure, pupils of the eyes, level of consciousness, and movement), identify objective words which could be written in a patient's chart to describe the specific sign.

2. Given a list of subjective symptoms (pain, nausea, headache, blurred vision, deafness, numbness and ringing in ears), identify through use of patient questioning, location, duration, intensity, occurrence and associated symptoms, if any, and record appropriately in Nursing Notes.

C. Class Procedure and Lesson Tie-In

Last hour of three on signs and symptoms

II. APPLICATION (40 min)

A. Arrangement of Students:

Students will be divided into groups of 10.

NOTE: Refer to Annex D

B. Directions to Students

1. Students will stop at each station to observe patient.

2. They will then record observations in Nurses Notes.

3. If they complete the stations prior to end of period they will watch AV aids that are available.

NOTE: VT TF8-4548

C. General plan for conducting practical exercise

1. Stations will be set up in hospital area beginning with simple observational skills to more complex.

NOTE: Refer Annex D

2. Students will record nursing notes on patient situations, instructors will review.

NOTE: Refer Annex E

3. If students complete the stations they will view AV aids available.

D. Directions to Instructors

1. Prior to beginning of practical exercise, set up area.

NOTE: Refer Annex D and E

2. Initially instructors will serve as patients in P.E. area.

3. Instructors will review Nursing Notes and offer direction.

III. CRITIQUE (3 min)

A. Questions From Students

B. Review of Main Points

1. Observation of signs and symptoms.

2. Recording observations as a means of communication.

C. Closing Statement: With this exercise on observation of signs and symptoms we have established the basic skill needed. Proficiency will come with practice, but the basic realization that what you can see, hear, touch, and smell can aid in the quality of nursing care given.

ANNEX A
INSTRUCTIONAL AIDS

Transparencies

T 65-340-007-1	Definitions of objective signs and subjective symptoms Observation of signs and symptoms
T 65-340-007-2	Signs and descriptive words
T 65-340-007-3	Continuance of signs
T 65-340-007-4	Questioning technique

ANNEX B
INSTRUCTIONAL AIDS

Videotape

VT CME 313	"A Person in Our World" (50 min) Second Hour
VT TF 8-4548	"Observation of the Patient"

ANNEX C
INSTRUCTIONAL AIDS

Equipment Needed

Moulage kit

Emesis basis (1) simulated emesis
  (2) simulated emesis containing old blood and fresh blood

TPR graphic (1) elevated temperature
  (2) elevated pulse and decreased blood pressure

I.V. Bottles - 3

I.V. Lines - 3

Red dye - 1

Sputum container - 1

Water pitcher - 1

Water

Oxygen setup - 1

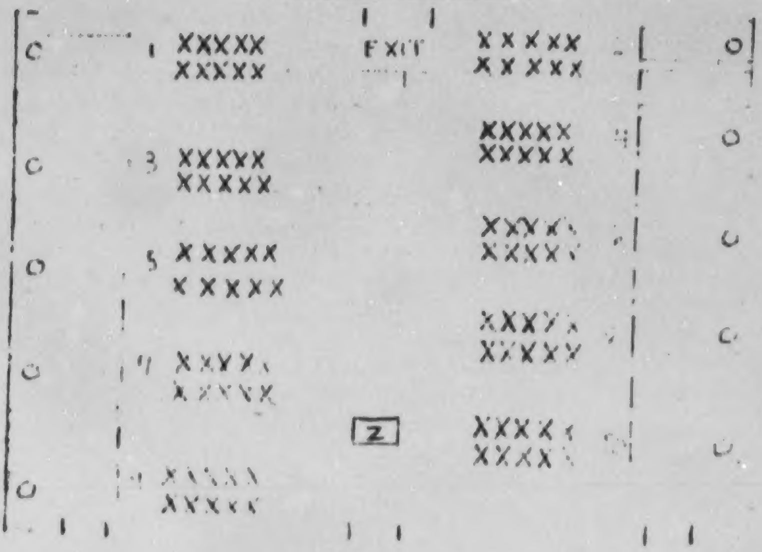
Ashtray

Cigarette butts

Pajamas - 10

Nursing Notes - 100

Practical Exercise Area
Physical Layout


EXIT
1
3
5
7
9
Z
XXXXX
O

O=patient

X=students (10 to station)

1-10 stations, patient situations

Z=AV machine

ANNEX E

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Patient Situations

NOTE: Evaluate subjective symptoms (location, duration, intensity, occurrence, associated symptoms), recognized signs.

1. Patient: Albert Smith, age 73, problems related to old age.
   - a. Evaluate for deafness
   - b. Patient will:
     - (1) Smile with no response
     - (2) Misunderstand speech, giving inappropriate response
     - (3) Cup hand to ear
   - c. Using grease paint create appearance of aged individual
   - d. Charting of patient deafness, appropriate action

2. Patient: Byron Smith, age 27, gastro-entritis, ingested food contaminated with salmonella, elevated temperature
   - a. Evaluate for nausea
   - b. Patient will:
     - (1) Complain of nausea/being hot
     - (2) Emesis basin at bedside with vomitus (simulated)
     - (3) TPR Graphic indicating elevated temperature
     - (4) Intravenous setup with empty bottle and small amount of blood in intravenous tubing
     - (5) Charting of patient nausea in Nursing Notes; recognition of I.V. bottle being empty; appropriate action

3. Patient: Carl "Cat" Smith, age 17, complains of loss of balance, syncope, and pain in ears
   - a. Evaluate for ear infection, loss of balance
   - b. Patient will:
     - (1) If asked to get out of bed will feign syncope
     - (2) Complain of pain in ear or ears
   - c. Charting of complaints of earache and syncope recognized as appropriate action

4. Patient: "Dirty" Dan Smith, age 20, diagnosis of pneumonia, fever, productive cough, complains of chest pain
   - a. Evaluate for complaints of pain and cough including sputum, I.V.
   - b. Patient will:
     - (1) Simulate cough and complain of pain

(2) Simulate perspiration and diaphoresis
(3) Have patient ask for fluids and tissues
(4) Have "used" tissues spread over bed

c. Use water to create appearance of perspiration and diaphoresis

d. Charting of cough, description of sputum, diaphoresis, appropriate action. Offering fluids and cleaning area also appropriate action

5. Patient: Egbert Smith, age 31, complains of severe headache, sensitivity to light and noise

a. Evaluate for headache, observe neuro signs, movement, grip, orientation, pupils of eyes

b. Patient will:
   (1) Complain of severe occipital headache
   (2) Feign sensitivity to light and noise
   (3) Ask for medication

c. Charting of complaints with location of headache appropriate action

6. Patient: Fobish Smith, age 53, complains of numbness on left side and decreased movement of left leg and arm, some difficulty with speech, slurred speech

a. Evaluate for numbness and left-sided weakness

b. Patient will:
   (1) Complain of numbness of arm and/or leg
   (2) Feign loss of function of left leg and arm
   (3) Speak creating slurred speech

c. Charting complaints of numbness, loss of function and slurred speech appropriate action

7. Patient: Gandi Smith, age 23, newly diagnosed diabetic admitted with keto acidosis--blurred vision, I.V.

a. Evaluate for complaints of keto acidosis, with emphasis on blurred vision also general agitation, abdominal complaints, nausea, tingling of fingers.

b. Evaluate for general keto acidosis emphasis on signs

c. Patient will:
   (1) Complain of blurred vision, abd complaints to include nausea, tingling, numbness in hands

d. Charting complaints, asking about recent S&A, last insulin will constitute appropriate action

CPT C.T. Splichal
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ACADEMY OF HEALTH SCIENCES
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Signs and Symptoms

In order for the clinical specialist to meet the responsibilities that he has assumed, he will need to develop certain basic skills. One of these skills is observation of the patient. Observation can be used in various ways, ranging from simply seeing an act or object, to an understanding that unables one to make an interpretation or draw a conclusion.

Observation is a skill that has to be developed with practice. We will try to help you develop this skill with this block of instruction. Why are we talking about observation when the title of this class is signs and symptoms? Because observation is taking notice of signs and symptoms. The patient, physician and nursing staff depend on our ability to perceive signs and symptoms which may indicate a change in physical status that may necessitate a change in treatment or care.

Our first topic will be objective signs and subjective symptoms. The definition of an objective sign is evidence that is observable by the physician, nurse or patient. In other words, evidence that can be detected by one of the services. An example of this is a rash. It is detectable by sight, thus, qualifying as an objective sign. What are some other examples of an objective sign? A thorough list includes cough, temperature, pulse, respiration, blood pressure and hemorrhage.

We now turn our attention to the subjective symptoms. The definition of a subjective symptom is one that has evidence that is percieved by the patient; a change in a patient's condition, indicative of some bodily or mental state. Pain is an excellent example. The patient perceives the pain then relays it to the nursing staff. A comprehensive list should include nausea, headache, blurred vision, deafness and numbness.

Observation in relationship to signs and symptoms is our next topic. In evaluating the patient's signs, observation plays an important role. For example, the pulse rate of a patient, the rate is measured to identify bradycardia or tachycardia. The quality and rhythm are also observed. Is the pulse strong or weak? That is what we mean by quality. Rhythm indicates regular or irregular beats. The observation of the patient's symptoms is a crucial part of this skill. Pain is a good example. The patient relates his pain to the nurse. A determination is then made by the nurse as to external manifestation, location, duration, intensity and emotional tie-in.

Non verbal communication is another important part of observation. A great deal can be learned from the patient's action and interaction with other patients. This tool can be, in some cases your most accurate means of evaluating a patient. The points for observation includes appetite, attitudes or emotional responses, eye contact, voice and speech quality and finally body language. Body language includes such things as posture, body movements and sleep habits.

Objective words describing various conditions play an important part in the maintenance of patient's charts and nursing notes. The ever changing condition of the patient must be charted on every shift and the utilization of objective words insures clear and concise notes. Objective words for several specific signs is our next topic. Cough is the first sign we will cover. A cough can be productive, hacking or persistent.

Several terms of the objective nature are related to respiration. Depth, dyspnea and apnea are just a few. Dyspnea is the medical term for labored breathing. Apnea simply means lack of respiration as in Cheyne Stokes, a condition characterized by dyspnea followed by apnea.

Skin color can be indicated by terms such as, cyanotic, ischemic and discoloration. Cyanotic means blue in color, while ischemic means blanched. Discoloration pertains to purpera or spot and ecchymosis or a bruise. These are two common conditions associated with skin discoloration.

Emesis or vomiting requires accurate charting due to a loss of fluids. Electrolytes, color, composition and volume are specifications needed when dealing with emesis. The color is usually green, yellow or red. Green indicates bile in the stomach while red is an indication of blood. Composition entails such things as blood, mucous and partially digested food. Vomiting may accur spontaneously as in projectile vomiting or preceded by retching. Retching is a contraction of muscles in the stomach wall.

Edema is dealt with by the degree of severity. Mild, moderate and severe are the common notations used. Pitting edema is an extremely severe edematous state.

Hemorrhage is usually referred to by the source and amount. The source is either venous or arterial. Venous blood is dark red in color, while the arterial is bright red. The amount is noted as being small, moderate or large. Hemorrhage may cause an elevation in the pulse rate and a change in quality. It can also cause a drop in blood pressure and the skin color to change to pallor.

Objective terms pertaining to body temperatures are, elevated, normal and below normal. Rate, rhythm and quality are terms used to describe the pulse. The rate indicates the number of pulsations felt or heard every minute. Bradycardis is a slow pulse, while tachycardia is a rapid pulse. The rhythm is generally reported as galloping, dicrotic or double and regular. Objective terms for quality include, bounding, weak and thready.

Blood pressure has two terms that are frequently used to describe it. Hypertension means an elevation in blood pressure. Hypotension indicates a decrease in normal pressure.

Several terms are applicable when discussing the pupils of the eyes. The list includes, dilated, constricted, reactive to light, equal and fixed.

A patient's level of consciousness requires accurate observation and charting. The objective terms applicable are alert and awake, coma and obtunded or dull. Coma is an unconscious state. Obtunded is a dullness of the mind and may be indicative of inappropriate responses.

A patient's movement can tell you a good deal about their condition. Two terms are helpful in recording a patient's movement; coordination is a self explanatory term. Hemiplegia is a term indicating one sided paralysis or weakness.

Patient questioning can be very helpful in a patient's overall assessment. Simple questions are found to be the most effective method. Short direct questions such as; where, how long, how bad, how often and what else happens, are valuable tools in gaining information from the patient. Make sure you avoid questions such as could you or would you. This may block communication lines.

When we talk about signs and symptoms we are also talking about observation. Without observation we would not be able to detect a problem or a change, thus, making the provision of medical care impossible.

NOTE: PAGE 149 is Missing; However, All MATERIAL is Included.

CPT C.T. Splich
M 65-340-011
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Signs and Symptoms

I. Objectives:

1. Define objective signs and subjective symptoms and give an example of each.

2. Discuss observation as it relates to signs and symptoms including non-verbal communication.

3. Given a list of signs (cough, respiration, skin color, emesis, edema, hemorrhage, body temperature, pulse, blood pressure, pupils of the eyes, level of conciousness, and movement), identify objective words which could be written in a patient's chart to describe the specific sign.

4. Given a list of subjective symptoms (pain, nausea, headache, blurred vision, deafness, numbness and ringing in the ears), identify through use of patient questioning location, duration, intensity, occurrence and associated symptoms, if any, and record appropriately in Nursing Notes.

NOTES

A. Objective Signs and Subjective Symptoms

1. Objective Signs

a. Definition:

b. Example:

2. Subjective Symptoms

a. Definition:

b. Example:

B. Observation

1. Signs

   a. Example:

      (1)

      (2)

      (3)

2. Symptoms

   a. Example:

      (1)

      (2)

         (a)

         (b)

         (c)

         (d)

         (e)

3. Interpretation or Conclusion:

4. Non-verbal Communication

   a.

   b.

c.

d.

e.

(1)

(2)

(3)

C. Signs

1. Cough

a.

b.

c.

2. Respiration

a.

b.

c.

3. Skin Color

a.

b.

c.

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(1)

(2)

4. Emesis

a. Color

(1)

(2)

(3)

b. Composition

(1)

(2)

(3)

c. Volume

5. Edema

a. Degree

(1)

(2)

(3)

b. Pitting

6. Hemorrhage

a. Source

(1)

(2)

b. Amount

(1)

(2)

(3)

7. Body Temperature

a.

b.

c.

8. Pulse

a. Rate

(1)

(2)

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b. Rhythm

(1)

(2)

(3)

c. Quality

(1)

(2)

(3)

d. Blood Pressure

e. Pupils of eyes

11. **Level of Consciousness**

    a.

    b.

    c.

12. **Movement**

    a.

    b.

D. **Patient Positioning**

    1.

    2.

    4.

    5.

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MODIFICATIONS

LP # 65-340-012 of this publication has (have) been deleted in adapting this material for use in Vocational and Technical Education. Deleted material was not available at time of publication and its exclusion does not alter the value of remaining material.

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M 65-340-012-1
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Hygienic, Safety and Activity Needs of the Patient

Objectives

1. Given a list, select the components of a patient admission procedure.

2. Briefly discuss the hygienic, comfort and safety measures employed in caring for a patient in a clinical setting.

3. Briefly discuss the various transfer and patient movement techniques employed in caring for a patient in a clinical setting to include; the use of body mechanics and body alignment.

4. Given a series of unlabeled pictures of various patient positions, name the patient position shown.

5. State the two general principles of transfer techniques.

6. Given a list, select the components of a hospital discharge procedure.

NOTES

A. Patient Admission Procedure

1.

2.

a.

b.

c.

d.

(1)

(2)

(3)

(4)

159

e.

f.

g.

h.

i.

j.

k.

(1)

(2)

(3)

3.

4.

5.

6.

7.

8.

9.

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10. Nursing Admission Note (DA Form 4336)

    a.

    b.

    c.

    d.

    e.

    f.

    g.

    h.

    i.

    j.

11.

B. Patient Hygiene

1. Definition of hygiene - Establishment and preservation of health

2. Types of patient hygienic needs

    a.

    b.

    c.

    d.

    e.

    f.

171

161

g.

h.

(1)

(2)

i.

C. Decubitus Ulcers (Pressure Sores, Bedsores)

1. Develops because skin tissue is destroyed due to inadequate blood supply due to prolonged pressure in an area.

2. Sites of development:

3. Signs of impending pressure sore

a. Discoloration - pale skin on part of body

b. May see reddened, irritated, tender skin

c. Patient may complain of numbness, tingling or tenderness

d. Skin break down, ulceration (late signs)

4. Prevention

a.

b.

c.

d.

e.

D. Patient Comfort, Activity and Safety

1. Comfort aids

   a.

   b.

   c.

   d.

   e.

   f.

   g.

   h.

2. Positioning patient

   a.

   b.

   c.

   d.

   e.

   f.

   g.

3. Active/Passive range of motion

   a. Purpose: preserve and maintain full range of motion of joint or body part

b. Nursing care considerations

(1) Do not force joint beyond pain or discomfort

(2) Support extremity and joint being exercised

(3) Check with nurse concerning order NOT to do ROM

4. Transfer and moving patient

a. Principles of transfer techniques

(1)

(2)

b. Transfer and movement techniques

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

5. Body mechanics and body alignment

   a. Definitions

      (1) Body mechanics - the coordinated use of body parts to produce motion and balance.

      (2) Body alignment - positioning of body parts in straight line.

   b. Value

      (1) Prevent injury (low back pain, severe muscle strain).

      (2) Lessen fatigue through efficient use of muscles.

6. Patient and employee safety

   a. General rules

      (1) Constantly watch for unsafe conditions

      (2) Report any unsafe conditions

      (3) Observe and enforce, NO SMOKING

      (4) Walk, DO NOT run

      (5) Obey safety rules when working with any equipment

      (6) Keep all patient areas neat and clean

      (7) Report any incidents or injuries no matter how slight

      (8) Become familiar with the common patient safety hazards

   b. Examples:

E. Patient Discharge Procedure

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

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Hygienic, Safety and Activity Needs of the Patient

Directions to Students

1. At all PE stations you will be asked to practice and demonstrate skills. All students will be instructed at some stations to assume roles of both patient and corpsman with roles being reversed so each student will have equal opportunity to experience being both a patient and corpsman.

2. Secondary instructors will assist and help you in gaining skills in patient care. They invite your questions.

3. It is imperative that all students listen to all briefing sessions, instructions and demonstrations given you prior to the start of any given PE station.

4. It is expected you will move from one PE station to another PE station in a quiet, orderly fashion to avoid confusion. Individual discipline will be enforced as needed.

5. All students will be expected to help in keeping all areas neat and tidy.

6. All equipment and supplies/materials used will remain at the PE station or area.

   DO NOT remove anything from the buildings or station. Individual discipline will be enforced as needed.

7. Breaks will be scheduled within long blocks of PE hours on a spontaneous basis. Consult your instructor before deciding to take a break.

8. Audiovisual aids will be furnished as supplementary stations should you find you have excess time before deciding to take a break.

9. All charting and identification of patient records will be done in black or blue-black ink except for portions of the Nursing Care Plan (pencil).

10. Write legibly, use correct grammar and spelling. It is expected all of you will begin using proper medical terminology in both communication and writing.

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ENLISTED INSTRUCTIONAL BRANCH

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Hygienic, Safety and Activity Needs of the Patient

Objectives:
PRACTICAL EXERCISES

1. Given proper equipment and practice admit a patient to include: weight, height, allergies, next of kin, symptoms and/or complaints and vital signs.
2. Record appropriate information on TPR Graphic and Nursing
3. Orient patient to unit, ward routine, rules and regulations.
4. Disrobe patient and dress patient in pajamas/gown.
5. Check and provide for care of valuables.
6. Given the Nursing Care Plan, make entries appropriate to the responsibilities of a 91C20 to include: assessment, hygiene, safety and activities.
7. Demonstrate discharging a patient to include: informing patient and explaining discharge procedure, assist patient in dressing and securing personal items, advise patient of follow-up clinic appointments, direct patient to the nurse for further instructions, remove patient's name from TPR, BP and diet rosters, direct patient to A&D for discharge and valuables.
8. Demonstrate writing a nurses admission note legibly using correct grammar, spelling and proper medical terminology.
9. Demonstrate turning, moving and positioning of patient to include: semi-fowlers, Sims, prone, lateral, supine, Trendelenburg and orthopneic positions utilizing proper body mechanics, comfort pillows, hand rolls, footboards, and trochanter rolls, maintaining good patient body alignment.
10. Demonstrate safe patient transfer techniques utilizing proper body mechanics to include: transfer from bed to wheelchair or chair and back to bed, transfer from bed to litter and back to bed, transportation of a patient on a litter and a 3-man lift and carry.

11. Demonstrate the safe application of mechanical restraints to include: posey belt, abdominal belt (sheet) and leather/web restraints.

12. Given a list, check a patient care are for potential safety hazards and report findings to appropriate personnel.

13. Given the proper equipment, demonstrate the proper utilization of body mechanics, principles in movements of reaching, stooping, pivoting/turning, lifting/carrying, and pushing/pulling.

14. Demonstrate active/passive range of motion exercises utilizing proper body mechanics and patient body alignment to include: precautionary measures in exercises to the patient and proper support of the extremity/joint being exercised.

15. Demonstrate a complete bed bath to include: oral hygiene/skin care, back rub, perineal care, shaving a patient, active/passive range of motion (ROM) and cleaning of the unit.

16. Demonstrate the making of an occupied and unoccupied bed.

17. Demonstrate serving the diet tray and feeding the patient.

18. Demonstrate accurate measuring and recording of patient intake and output.

19. Demonstrate a male or female catheterization using sterile technique.

20. Demonstrate the safe application of a male external catheter.

21. Identify elements of intravenous fluid therapy to include: care of equipment, signs of infiltration, phlebitis, and infection.

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General Rules for Charting

1. Entries on the patient's chart should be printed or handwritten. After completing the account, sign the chart with your complete name, rank and MOS or Corps, e.g., Joe W. Spilker, SP4, 91C20.

2. Ditto marks may NOT be used.

3. DO NOT erase. Erasures provide reason for question if the chart is used in court. If a mistake is made, a single line is drawn through the mistake and initialed. Charting is then continued in a normal manner, e.g.:

   (J.S.)
   ~~1000 S.S. enema given. Solution returned clear.~~
   Joe W. Spilker, SP4, 91C20

   1000 Fleet's enema given. Solution returned clear
   Joe W. Spilker, SP4, 91C20

4. Be exact in charting time, effect and results of all treatments and procedures.

5. Describe clearly and concisely the character and amount of drainage, vomitus, stools, and urine. Record patient complaints and general behavior. Describe the type, location, onset and duration of pain.

6. Note the time of physician's visit, examination, and/or treatments.

7. Leave no blank lines in the charting. Draw a line through the center of an empty line or part of a line. This prevents charting by someone else in an area signed by you.

8. Complete all charting in blue/black or black ink.

9. Chart time patient leaves the unit for treatment, surgery, or diagnostic procedure and time of return.

10. Use standard abbreviations.

11. Postoperatively, chart pulse, respiration, blood pressure, general condition of patient, time of reaction from anesthesia, condition of dressing of wound, and other pertinent factors about patient placed in your care.

12. In the event of death, chart time of death, doctor certifying the expiration, date and time body transferred to morgue, disposition of patient's belongings and any other pertinent information per hospital or ward SOP.

13. Addressograph each page of the patient's chart.

14. Use present tense. Never use future tense such as "patient to be ambulated."

15. Spell correctly. If you are not sure about the spelling of a word, use a dictionary to look it up.

Specific Charting Suggestions

Record vital information regarding the patient on the appropriate forms. These entries include:

1. General baths and packs - record an accurate description thereof.

2. Dressings - chart the appearance of the wound, drainage, and type of dressing applied.

3. Diet - chart type and amount of food taken, and amount of fluids.

4. Output - emesis, B.M., wound drainage, urine, perspiration, and amount obtained from suction.

5. Temperature of applied heat, type, how long applied, and where applied; chart cold measures applied, type, how long, and where applied.

6. Body care - chart hour, back care, care of decubitus (if needed), mouth care, type of bath, and positioning. Indicate special procedures or appliances used. State body positioning and needed supports.

7. Ambulation - chart time, distance, and tolerance.

8. Diagnostic tests - note time, type, unusual occurrences, patient reaction and outcome.

9. Specimens - identify and label. Chart time and kind sent to laboratory.

10. The time oxygen was begun and discontinued and method used (mask, cannula, etc.).

11. Any medications given, the time and amount.

12. IV's - chart when begun, kind, where started, and number of drops/minute. When discontinued, chart time completed, amount, condition of tissue, and patient reaction.

13. All procedures accomplished: type, time, outcome, and patient reaction.

14. Any mental symptoms, state of consciousness, convulsions, or untoward behavior. State general attitude, time, place, and outcome.

15. Bleeding or unusual discharge.

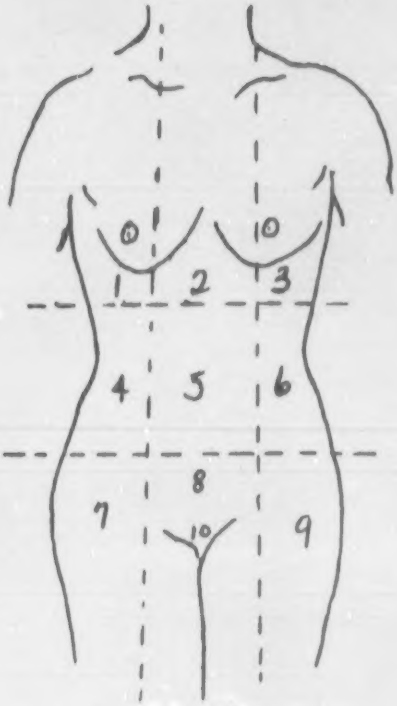
16. Surgical preparation.

17. Admission, discharge or death of patient. Follow procedure of health facility and chart all information pertaining to the patient.

Descriptive Terms Commonly Used in Charting

Word	Idea to be Charted	Suggested Terms to Use
Abdomen	1. Black and blue color noted	1. Bruised (appears), ecchymotic
	2. Bloated; filled with gas	2. Tympanitus, distended
	3. Hurts when touched	3. Sensitive to touch; tender
	4. Hard: boardlike	4. Rigid
	5. Large: extends outward	5. Protruding
	6. Soft; flabby; flat	6. Soft; flaccid; flat
	7. Appears swollen, rounded	7. Distended
	8. Presence of rash	8. Rash present (mild, severe)
	9. Scars present	9. Scarified

Areas or regions of the abdomen



1. Right hypochondriac area
2. Epigastric area
3. Left hypochondriac area
4. Right lumbar region (in back and side)
5. Umbilical (Naval) area
6. Left lumbar region (in back and side)
7. Right iliac
8. Hypogastric area
9. Left iliac
10. Genitourinary area

Word	Idea to be Charted	Suggested Terms to Use
Amounts	1. Large amount	2. Profuse, copious, free, excessive, measured amount
	2. Moderate amount	2. Moderate, usual, measured amount
	3. Small amount	3. Small amount, scanty, slight, very little measured amount
Appearance, general	1. Thin and undernourished	1. Emaciated
	2. Fat, overweight	2. Obese
	3. Seems very sick	3. Acutely ill
	4. Not very sick	4. Not acutely ill
	5. Fails to notice things	5. Apathetic, indifferent
	6. Extremely worried; nervous	6. Anxious, shows anxiety
	7. Appears to have blue color	7. Cyanotic
	8. Extremely happy; fails to accept reality as it is	8. Euphoric
	9. Skin appears yellowish	9. Jaundiced
Appetite	1. Craves certain foods	1. Parorexia
	2. Desire to eat materials not accepted as food (chalk, dirt)	2. Perverted appetite
	3. Eats everything served and asks for more food	3. Hearty appetite
	4. Appears never to get enough food	4. Insatiable appetite

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Word	Idea to be Charted	Suggested Terms to Use
Appetite (cont)	5. Eats all food served	5. Good appetite
	6. Eats very little of food served	6. Poor appetite
	7. Refuses to eat	7. Refused food (state reason)
	8. Eats only small amount	8. Fair appetite
	9. Loss of appetite	9. Anorexia
Arm (extremity)	1. Shoulder to elbow	1. Upper arm
	2. Elbow to wrist	2. Lower arm
	3. With much extra tissue	3. Plump to obese
	4. Appears puffy or swollen	4. Edematous, edema present
	5. Artificial arm	5. Artificial arm (state which arm)
Attitude (mental)	1. Afraid; worried	1. Anxious; fearful
	2. Does not believe what is said	2. Distrustful; suspicious
	3. Fixed idea (right or wrong)	3. Obsession
	4. Behavior that forces self or ideas on others	4. Aggressive
	5. False belief; insists upon	5. delusion
	6. Centers attention upon self	6. Introvert
	7. "Don't care" attitude	7. Apathetic
	8. Not interested in surrounds	8. Indifferent

Word	Idea to be Charted	Suggested Terms to Use
Attitude (mental)(Cont)	9. Happy, carefree	9. Cheerful, optimistic
	10. Seems to feel guilty and worries about unreal things	10. Appears depressed
Back (areas)	1. Upper back	1. Shoulder area; thoracic area; interscapular region
	2. Small of back	2. Lumbar area
	3. End of spine	3. Sacral area
	4. Buttocks; gluteal area	4. Buttocks; gluteal area
	5. Humped back	5. Kyphosis
	6. Sway back	6. Eordosis
	7. Curved back	7. scoliosis
Backrest	1. Backrest raised	1. Backrest elevated (indicate angle, degree of)
Baths	1. Given when patient arrives	1. Admission bath
	2. Entire body	2. Complete bath
	3. Face, arms, back, axilla, genitals,	3. Partial bath
	4. Special baths (treatment)	4. Name of bath, i.e., Sitz
	5. Taken in bed	5. Bedbath
	6. Taken in tub or special tub	6. Tub bath or Sitz bath

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Word	Idea to be Charted	Suggested Terms to Use
Belch	1. Belching	1. Eructation, burping
Bleeding	1. In large amount and in spurts	1. In spurts; profuse
	2. Very little	2. Oozing; minimum amount
	3. Nosebleed	3. Epistaxis
	4. Blood in vomitus	4. Hematemesis
	5. Blood in urine	5. Hematuria
	6. Blood in sputum	6. Hemoptysis
	7. When bleeding is stopped	7. Hemorrhage, controlled
Blister	1. Raised area on skin filled with water.	1. Vesicle
Blood Pressure	1. Blood pressure 120/74	1. BP 120/74 (Example) strong, weak
Breast	1. Each appear same size	1. Of equal size
	2. Inflammation	2. Mastitis
	3. Large; hard	3. Engorged
	4. Satisfactory in appearance	4. Developed normally
	5. Nipple always depressed	5. Inverted nipple
	6. Period of milk formation	6. Lactation

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Word	Idea to be Charted	Suggested Terms to Use
Breath (breathing)	1. Taking in air	1. Respiration; inspiration
	2. Breathing air out	2. Respiration; expiration
	3. Normal breathing	3. Eupnea
	4. Difficult breathing	4. Dyspnea
	5. Short time without breathing	5. Apnea
	6. Rapid breathing	6. Hyperpnea
	7. Cannot breathe lying down	7. Orthopnea
	8. Snoring sounds of breathing	8. Stertorous respiration
	9. Unpleasant	9. Halitosis
	10. Increasing dyspnea with periods of non-breathing	10. Cheyne-Stokes respiration
	11. Suffocation	11. Asphyxia
	12. Large amount of air taken	12. Deep breathing
	13. Small amount of air taken	13. Shallow breathing
	14. Abnormal variation of breath	14. Irregular respiration
	15. Sweet, fruitlike odor	15. Fruity, sweet
	16. Foul	16. Fetid
	17. Smells of alcohol	17. Alcoholic

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Word	Idea to be Charted	Suggested Terms to Use
Care	1. Wash face, hands, mouth toilette	1. Early A.M. care
	2. Bath, toilet, mouth care, backrub, ROM, care of hair and nails	2. Routine A.M. care
	3. Wash hands, face and back, backrub, toilet, mouth care	3. P.M. care
	4. Special care (mouth, skin)	4. Special care to (mouth, skin)
Chest	1. Abnormally shaped	1. Deformed
	2. Looks rounded front and back	2. Barrel-chest
	3. Looks abnormally small	3. Shrunken
	4. Hurts when moving or breathing	4. Pain on moving, pain on breathing
Chill	1. Came on suddenly	1. Sudden onset
	2. How long it lasts	2. Duration of (state time); prolonged, short, persistent or intermittent
	3. Extent (severity) of chill	3. Moderate, severe, slight
Color (urine, feces)	1. Without color	1. Clear, colorless
	2. Of normal urine	2. Straw-colored to amber
	3. Resembling clay	3. Clay-colored
	4. Looks same as tar	4. Tarry
	5. Tinged with blood	5. Blood-tinged

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Word	Idea to be Charted	Suggested Terms to Use
Coma	1. Partly in coma	1. Partially comatose
	2. In deep coma	2. Profound coma
Consciousness	1. Aware of surroundings	1. Alert-conversant, fully conscious
	2. Partly conscious	2. Lethargic, semiconscious
	3. Not conscious, but can be aroused	3. Stuporous
	4. Unconscious, cannot be aroused	4. Comatose
Consistency	1. Remains together, retains shape	1. Formed
	2. Running like water	2. Liquid
	3. Thick, sticky and gluelike	3. Concentrated; viscous; tenacious
	4. Contains and looks like mucus	4. Mucoid
Convulsion	1. Muscles contract and relax (shaking with intervals of rest)	1. Clonic tremor or convulsion
	2. Muscle contraction maintained for long period(continuous shaking)	2. Tonic tremor or convulsion
	3. Localized muscle contraction	3. Jacksonian
	4. Began without warning	4. Sudden onset
	5. Spasm or convulsive seizure	5. Paroxysm

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Word	Idea to be Charted	Suggested Terms to Use
Cough	1. Coughs all the time	1. Continuous cough
	2. Coughs over long period of time	2. Persistent cough
	3. Coughs up material	3. Productive cough
	4. Coughs without producing material	4. Non-productive cough
	5. Occurring in spasm	5. Spasmodic cough
	6. Coughs quite often	6. Frequent cough
	7. With characteristic "whoop" on inspiration	7. Whooping cough
	8. Coughs with certain attacks	8. Paroxysmal cough
	9. Various types	9. Loose, deep, dry, painful, exhaustive, tight, hacking, hollow, harsh, explosive, crowing
Decay	1. Of teeth	1. Dental caries
	2. Of tissue	2. Necrosis, necrotic
Defecation (bowel movement)	1. Bowel movement (material) bowel movement (act of)	1. Feces, stool defecation
	2. Excessive defecation	2. Diarrhea
	3. Gray-colored stool	3. Clay-colored stool
	4. Dark brown liquid stool	4. Highly colored liquid stool
	5. Soft material	5. Soft, formless or soft-formed stool

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Word	Idea to be Charted	Suggested Terms to Use
Defecation (bowel movement)	6. Hard-formed stool expelled with difficulty, pellet-like	6. Constipated; hard-formed stool
Dizziness	1. Feeling of being unstable, unsteady; dizzy	1. Vertigo
Drainage	1. Second dressing added over original	1. Dressing reinforced
	2. Dressing removed; reapplied	2. Dressing changed
	3. Sterile dressings	3. Sterile dressing applied
Ears	1. Wax in the ears	1. Cerumen
	2. Ringing sensation in ears	2. Tinnitus
	3. Dizziness	3. Vertigo
	4. Abnormal in shape	4. Deformed
Emesis	1. Agent given to produce emesis	1. Emetic
	2. Produced by effort of patient	2. Induced
	3. Ejected forcefully without warning	3. Projectile
	4. Blood particles in content	4. Blood-tinged
Enemas	1. Liquid given to induce expulsion of feces	1. Cleansing enema
	2. For nourishment	2. Nutritive enema

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Word	Idea to be Charted	Suggested Terms to Use
Enemas (cont)	3. To rid gas	3. Carminative enema
	4. To expel worms	4. Anthelmintic enema
	5. To remain for some time	5. Retention enema
	6. To aid in fluoroscopic diagnostic exam	6. Barium enema
Expectoration	1. Spitting up saliva	1. Expectorate
	2. Much and/or little amount	2. Profuse and/or small or scant
	3. Spitting up blood	3. Hemoptysis
	4. Mucus with blood particles	4. Blood-tinged
Eyes	1. Ability to see well (sharpness of vision)	1. Visual acuity
	2. Near-sightedness	2. Myopia
	3. Far-sightedness	3. Hyperopia
	4. Sees objects indistinctly	4. Blurred vision
	5. Dilation of pupil	5. Dilated pupil
	6. Small, pin-point, contracted, etc.	6. Contracted pupil; "pin-point"
	7. Sees double (two of things)	7. Diplopia
	8. Squinting	8. Strabismus
	9. Puffy; appears swollen	9. Edematous

Word	Idea to be Charted	Suggested Terms to Use
Eyes (Cont)	10. Drooping eyelids	10. Ptosis of lids
	11. Whites of eyes appear yellow	11. Jaundiced
	12. Inflammation of socket and lid lining	12. Conjunctivitis
	13. Stye on eyelid	13. Hordeolum
	14. Motionless, not moving,	14. Fixed
	15. Unusually sensitive to light	15. Photophobia
	16. Eyeball appears to stick out of socket	16. Exophthalmia (as in hyperthyroidism or goiter)
	17. Other characteristic terms	17. Bright, clean, dull, inflamed, sunken, crossed, bloodshot, burning, smarting
Face	1. Without color	1. Pale
	2. Unsually pink	2. Flushed
	3. Broken areas of skin (broken out)	3. Acne or rash
	4. Black and blue colored	4. Appears bruised
	5. Marked with scars and pits	5. Pock-marked
	6. Characteristic expressions worn	6. Defiant, sad, angry, fearful, worried, happy, anxious, dissatisfaction, pained, boredom
Faint	1. Losing consciousness, fainting	1. Syncope

Word	Idea to be Charted	Suggested Terms to Use
Feet	1. Reddened spots or places caused by pressure or friction; blistered	1. Pressure area present; blister(s) present
	2. Puffy, appears swollen or enlarged	2. Swollen, edematous
	3. Other terms to describe	3. Warm, cold, hot, painful, gangrenous
Fever	1. Without fever	1. Afebrile
	2. Fever, temperature above normal	2. Pyrexia
	3. Greatly above normal	3. Hyperpyrexia
	4. Elevated temperature suddenly returns to normal	4. Crisis
	5. Elevated temperature gradually returning to normal	5. Lysis
Fingers	1. Appear square across and curved at the end	1. Clubbed
	2. Coming to fine point at end	2. Tapering
Gas	1. Gas in the digestive tract	1. Flatus
	2. Distension caused by accumulation of gas	2. Flatulence
Gums	1. Tender, inflammed	1. Gingivitis
	2. Pulling away from teeth	2. Receding; shrunken
	3. Healthy looking	3. Pink, firm
	4. Other terms to describe	4. Spongy, bleeding

Word	Idea to be Charted	Suggested Terms to Use
Hair	1. Clean, good appearance	1. Clean, glossy
	2. Unclean, coarse	2. Dirty; greasy; coarse
	3. Absence of hair	3. Alopecia
	4. Other terms to describe	4. Tangled, neglected, unkempt, bleached, dyed
Hallucination	1. Abnormal senses not observed by others	1. Hallucination
	2. of hearing (sounds or voices)	2. Auditory hallucination
	3. of sight (visual images)	3. Visual hallucination
	4. of smell (abnormal odors)	4. Olfactory hallucination
	5. of taste	5. Gustatory hallucination
Hands	1. Fingers square and curved	1. Clubbed fingers
	2. Shaking continuously	2. Trembling
	3. Wet, dry	3. Moist, dry
	4. Hot, cold	4. Hot, cold
	5. Other terms to describe	5. Dirty, rough broken nails
Head	1. Forehead	1. Frontal region
	2. Region over temple	2. Temporal region
	3. Side of head at top part	3. Parietal (right or left) region
	4. Back of head	4. Occipital region
	5. Base of skull	5. Basilar region

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Word	Idea to be Charted	Suggested Terms to Use
Head (Cont)	6. Unsually large head	6. Macrocephalous
	7. Unusually small head	7. Microcephalous
Heart beat	1. Irregularity of heartbeat	1. Arrhythmia
	2. Slowness of heartbeat	2. Bradycardia
	3. Fast heartbeat	3. Tachycardia
Hives	1. Hives (raised areas on skin)	1. Urticaria
	2. Itching	2. Pruritus
Joints	1. Bent	1. Flexion
	2. To straighten	2. Extension
	3. Turned downward	3. Pronation
	4. Turned upward	4. Supination
	5. Revolve around	5. Rotation
	6. Move away from center line	6. abduction
	7. Move toward center line	7. adduction
	8. A stiff joint	8. Ankylosis
	9. Inflammation of a joint	9. Arthritis
	10. Stretching or wrenching of a joint	10. Sprain
Legs (areas)	1. Between knee and hip	1. Thigh
	2. Thigh to knee	2. Upper leg
	3. Knee to ankle	3. Lower leg

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Word	Idea to be Charted	Suggested Terms to Use
Lice	1. Animal parasites on body	1. Pediculi
	2. of head area	2. Pediculosis capitis
	3. of body area	3. Pediculosis corporis
	4. of pubic area	4. Pediculosis pubis
Lips	1. Pale, colorless	1. Pale
	2. Blue in color	2. Cyanotic
	3. With tiny cracks	3. Fissured; cracked
	4. Fever blisters present	4. Presence of herpes simplex (cold sore)
Lungs	1. Abnormal sounds in	1. Rales
Memory	1. Loss of memory	1. Amesia
Muscle	1. Lack of normal tone or size; wasting	1. Atrophy
	2. Inflammation	2. Myositis
	3. Stretching of	3. Strain
Nails	1. Blue in color	1. Cyanotic
	2. Other descriptive terms	2. Clean. dirty. broken, manicured, brittle
Nose	1. Nosebleed	1. Epistaxis
	2. Other descriptive terms	2. Red, enlarged, deformed

Word	Idea to be Charted	Suggested Terms to Use
Odor	1. Not pleasant; pungent; spicy	1. Aromatic
	2. Like fruit	2. Fruity
	3. Unpleasant	3. Offensive; foul
	4. Like ammonia	4. Ammoniacal
	5. Belonging to a particular thing, drug, etc.	5. Characteristic
Pain	1. Much pain; great	1. Severe
	2. Little amount	2. Slight
	3. Comes in seizures	3. Spasmodic; paroxysmal
	4. Spreads to certain area	4. Radiating
	5. Begins suddenly	5. Sudden onset
	6. Hurts worse when moving	6. Increased by movement
	7. Other terms to describe	7. Aching, dull, burning, throbbing, gnawing, acute, chronic, generalized, deep, superficial, excruciating, unyielding cramping, shooting, darting, colicky, continuous, shifting, agonizing, piercing, intense, transient, localized, remittent, persistent, sharp, sudden, stabbing, constant

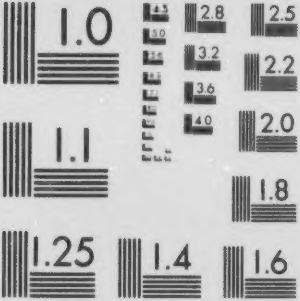
Word	Idea to be Charted	Suggested Terms to Use
Paralysis	1. Face muscles unable to move	1. Facial paralysis
	2. Leg muscles unable to move	2. Paraplegia
	3. One side of the body	3. Hemiplegia
	4. Four extremities unable to move	4. Quadriplegia
	5. Single limb unable to move	5. Monoplegia
Perspiration	1. Large amount	1. Profuse, excessive
	2. Small amount	2. Scanty or slight
Positions of the body	1. Flat on back, arms straight at sides	1. Dorsal, supine
	2. On side, knees flexed	2. Lateral
	3. On left side, left arm behind back, right leg flexed	3. Sims
	4. Dorsal, head elevated, knees flexed	4. Fowler's
	5. Dorsal, knees flexed, head slightly elevated	5. Semi-Fowler's
	6. On back with heels brought close to buttocks; knees bent	6. Lithotomy
	7. On back; knees flexed	7. Dorsal-recumbent
	8. Resting on knees and chest	8. Knee-chest
	9. On back; pelvis higher than head	9. Trendelenburg

Word	Idea to be Charted	Suggested Terms to Use
Positions of the body (Cont)	10. On abdomen; head turned to one side	10. Prone
	11. Prone with hips over break in bed/table, feet below level of head	11. Jackknife
Pulse	1. Number of beats per minute	1. Rate
	2. Rhythm	2. Regular or irregular
	3. Beats missed at intervals	3. Intermittent
	4. Over 100 per minute	4. Rapid
	5. Slow in rate	5. Slow
	6. Beats indistinct (rapid)	6. Running
	7. Beats hardly perceptible	7. Thready
	8. Rapid, distinct beats	8. Bounding
	9. Cannot be felt	9. Imperceptible
	10. According to strength	10. Weak, strong
Sensation	1. Feeling experienced	1. Tingling, burning, stinging, prickling, hot, cold
Skin	1. Normal	1. Healthy
	2. Pink, hot	2. Flushed
	3. Blue in color	3. Cyanotic
	4. Very white	4. Extreme pallor, pale

Word	Idea to be Charted	Suggested Terms to Use
Skin (Cont)	5. Shines	5. Glossy
	6. Raw surface	6. Excoriation
	7. Yellow in color	7. Jaundiced
	8. Torn	8. Lacerated
	9. Cold and moist	9. Clammy
	10. Boil	10. Furuncle
	11. A discolored spot	11. Macule
	12. A pimple	12. Papule
	13. A blister	13. Vesicle
	14. A pimple filled with pus	14. Pustule
	15. Containing colored areas	15. Pigmented
	16. Wet	16. Moist
	17. Scraped	17. Abraided
	18. Small ecchymosis of skin	18. Petchia
	19. Area where skin is rubbed off	19. Abrasion
	20. Redness of	20. Erythema
	21. Other descriptive terms	21. Mottled, discolored, moist, dry, hot, cold, warm, oily, broken, calloused, wrinkled, infected, tight, coarse, of fine texture, tanned.

Word	Idea to be Charted	Suggested Terms to be Used
Skin (Cont)	22. Indicate presence of:	22. Rash, abrasion, laceration, insect bites, tumors, eruptions, acne, crusts, scars, ulcers, moles, fissures, abscess.
Sleep	1. Slept very little	1. Slept very little slept at short intervals
	2. Tired when awaken	2. Awakens fatigued
	3. Inability to sleep	3. Insomnia
Specimen	1. Sent to the laboratory	1. Specimen to laboratory (spec. to lab) Specify what kind
Speech	1. Not understandable	1. Incoherent
	2. Meaningless, wandering	2. Rambling
	3. Words run together	3. Slurring
	4. Stammering, stuttering	4. Stammering, stuttering
	5. Not heard distinctly	5. Inarticulate
	6. Difficulty in speaking	6. Dysphagia
	7. Unable to speak	7. Aphasia
	8. Other terms to describe	8. Hoarse, feeble, fluent
Symptoms	1. Observed by the patient	1. Subjective
	2. Observed by others	2. Objective
	3. A group of symptoms	3. Syndrome

Word	Idea to be Charted	Suggested Terms to Use
Teeth	1. False teeth	1. Dentures
	2. Decay	2. Dental caries
	3. Collection of material on	3. Sordes
	4. Other terms to describe	4. Notched, decayed, natural, crooked, protruding, crowded, irregular, broken, loose
Throat	1. Difficulty in swallowing	1. Dysphagia
	2. Inability to swallow	2. Aphagia
	3. Other descriptive terms	3. Red, swollen, inflammed irritated
Tongue	1. Terms to describe	1. Pink, moist, dry, cracked, raw, coated, swollen, ulcerated, inflammed
Treatment	1. To prevent	1. Prophylactic
	2. To give temporary relief	2. Palliative
Urination	1. To urinate	1. Void, micturate, urinate
	2. Unable to control	2. Incontinent; involuntary
	3. Burning when voids	3. Burning sensation on micturation, voiding or urination
	4. Large amount	4. Diuresis
	5. No urine passes	5. Anuria
	6. Frequent night urination	6. Nocturia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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

Word	Idea to be Charted	Suggested Terms to Use
Urination (Cont)	7. Frequent and increased urination	7. Polyuria
	8. Pus in urine	8. Pyuria
	9. Sugar in urine	9. Glycosuria
	10. Blood in urine	10. Hematuria
	11. Albumin in urine	11. Albuminuria
	12. Scantiness of urine	12. Olguria
	13. Wetting bed	13. Enuresis
	14. Stones in urine	14. Calculi
	15. Painful urination	15. Dysuria
	16. Other terms to describe	16. Cloudy, with sediment, straw-colored, coffee-colored, excessive amount
Weight	1. Overweight	1. Obese
	2. Thin, underweight	2. Emaciated
Wounds	1. Deep	1. Deep
	2. Surface	2. Superficial
	3. Not infected	3. Clean
	4. Pus discharges from	4. Suppurating
	5. Infected	5. Infected
	6. Torn	6. Lacerated

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CPT L.W.Richard
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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Hygienic, Safety and Activity Needs of the Patient

	Abbreviation	Meaning
1.	a	Before
2.	$\overline{a}$ or $\overline{aa}$	Of each
3.	ac	Before meals
4.	Amt	Amount
5.	Ad lib	As desired
6.	A.K.	Above the knee (ref. to amputations)
7.	B.I.D.	Twice a day
8.	B.K.	Below the knee (ref. to amputations)
9.	B.U.N.	Blood-Urea-Nitrogen
10.	B.R.P.	Bathroom priviledges
11.	BaE	Barium Enema
12.	$\overline{c}$	With
13.	c/o	Complains of
14.	C.H.F.	Congestive heart failure
15.	CXR	Chest X-ray
16.	C.N.S.	Central Nervous System
17.	C.C.U.	Coronary Care Unit
18.	C&S	Culture & Sensitivity
19.	DC	Discontinue
20.	E.E.N.T.	Eyes, Ears, Nose & Throat
21.	E.R.	Emergency Room
22.	E.E.G.	Electroencephalogram
23.	EKG/ECG	Electrocardiogram

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	Abbreviation	Meaning
24.	e.g.	For example
25.	F.U.O.	Fever of undetermined orgin
26.	Fr.	French
27.	gtts.	Drops
28.	Hct.	Hematocrit
29.	Hgb	Hemoglobin
30.	hs	Hour of sleep
31.	I.C.U.	Intensive Care Unit
32.	K.V.O.	Keep vein open
33.	K.U.B.	Kidneys Ureters Bladders - usu. ref. to x-rays
34.	M.O.D.	Medical Officer of the Day
35.	NKA	No known allergies
36.	N.P.O.	Nothing by mouth
37.	N.S.	Normal saline
38.	O.T.	Occupational Therapy
39.	O.R.	Operating Room
40.	OOB	Out of bed
41.	OS	Left eye
42.	OU	Both eyes
43.	OD	Right eye
44.	p.c.	After meals
45.	PEARL	Pupils equal and reactive to light
46.	P.I.D.	Pelvic Inflammatory Disease

	Abbreviation	Meaning
47.	P.O.D.	Physician of the Day
48.	P.N.S.	Peripheral Nervous System
49.	P.T.	Physical Therapy
50.	p.o.	By mouth
51.	P.R.N.	As needed
52.	Q.I.D.	4 times a day
53.	q2h	Every 2 hours
54.	q.o.d.	Every other day
55.	q.s.	Quantity sufficient
56.	R.C.U.	Respiratory Care Unit
57.	s̄	Without
58.	S.B.S.	Side-back-side
59.	S.S.E.	Soaps-suds enema
60.	Stat	Immediately
61.	S.O.B.	Short of breath
62.	T.I.D.	Three times a day
63.	T.K.O.	To keep open
64.	U.A.	Urinalysis
65.	W/C	Wheelchair
66.	↑	Elevated
67.	↓	Decreased (lowered)
68.	D5W	5% Dextrose & Water

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	Prefix	Definition	Usage	Definition
1.	A or Ab	Away, lack of	Abnormal	Departing from normal
2.	A or An	From, without	Asepsis	Without infection
3.	Ad	To, toward, near	Adrenal	Neat the kidney
4.	Aden	Gland	Adenitis	Inflammation of a gland
5.	Alg	Pain	Neuralgia	Pain extending along a nerve
6.	Ambi	Both	Ambidextrous	Referring to both hands
7.	Ante	Before	Antenatal	Occurring or having formed before birth
8.	Anti	Against	Antiseptic	Against or preventing sepsis
9.	Arth	Joint	Arthritis	Inflammation of a joint
10.	Auto	Self	Auto-intoxication	Poisoning by toxin generated in the body
11.	Bi or Bin	Two	Binocular	Pertaining to both eyes
12.	Bio	Life	Biopsy	Inspection of living organism or tissue
13.	Blast	Bud- a growing thing in early stages	Blastocyte	Beginning cell not differentiated
14.	Bleph	Eyelids	Blepharitis	Inflammation of an eyelid
15.	Brachi	Arm	Brachialis	Muscle for flexing forearm
16.	Brachy	Short	Brachydactylia	Abnormal shortness of fingers and toes
17.	Brady	Slow	Bradycardia	Abnormal slowness of heartbeat
18.	Bronch	Windpipe	Bronchitis	Inflammation of bronchi
19.	Carcin	Cancer	Carcinogenic	Producing cancer
20.	Cardi	Heart	Cardialgia	Pain in the heart

	Prefix	Definition	Usage	Definition
21.	Cephal or Cephalo	Head	Cephalagia	Headache
22.	Cerebro	Brain	Cerebropathy	Any brain disease
23.	Chole	Bile	Cholecyst	The gallbladder
24.	Chondre	Cartilage	Chondrectomy	Removal of a cartilage
25.	Circum	Around	Circumocular	Around the eyes
26.	Contra	Against, opposed	Contraindicated	Indication opposing usually indicated treatment
27.	Cost	Rib	Intercostal	Between the ribs
28.	Counter	Against	Counter-irritant	An irritation to relieve some other irritation
29.	Crani	Skull	Craniotomy	Surgical opening in skull
30.	Crypt	Hidden	Cryptogenic	Of hidden or unknown origin
31.	Cut	Skin	Subcutaneous	Under the skin
32.	Cyst	Sac or bladder	Cystitis	Inflammation of the bladder
33.	Cyto	Cell	Cytology	Scientific study of cells
34.	Derm	Skin	Dermatitis	Inflammation of the skin
35.	Di	Two	Diphasic	Occurring in two stages or phases
36.	Dis	Apart	Disarticulation	Taking a joint apart
37.	Dys	Pain or difficulty	Dyspnea	Difficult breathing
38.	Ecto	Outside	Ectoretine	Outermost layer of retina
39.	Em or En	In	Encapsulated	Enclosed in a capsule
40.	Encephal	Brain	Encephalitis	Inflammation of the brain

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	Prefix	Definition	Usage	Definition
41.	End	Within	Endothelium	Layer of cells lining heart, blood, & lymph vessels
42.	Entero	Intestine	Enteritis	Inflammation of intestine
43.	Epi	Above or upon	Epidermis	Outermost layer of skin
44.	Erythro	Red	Erythrocyte	Red blood cell
45.	Eu	Well	Euphoria	Feeling of well-being
46.	Ex or E	Out	Excretion	Material thrown out of body or the organ
47.	Exo	Outside	Exocrine	Excreting outwardly (opposite of endocrine)
48.	Febri	Fever	Febrile	Feverish
49.	Gastr	Stomach	Gastrectomy	Excision of the stomach
50.	Genito	Genitalia	Genitoplasty	Plastic surgery on genital organs
51.	Gloss	Tongue	Glossectomy	Surgical removal of tongue
52.	Glyco	Sugar	Glycosuria	Sugar in the urine
53.	Gynec	Woman	Gynecology	Science of diseases pertaining to women
54.	Hem/Hemat	Blood	Hematogenesis	The formation of blood
55.	Hemi	Half	Heminephrectomy	Excision of half the kidney
56.	Hepat	Liver	Hepatitis	Inflammation of the liver
57.	Hetero	Other	Heterosexual	Pertaining to or characteristic of the opposite sex
58.	Hist	Tissue	Histology	Science of minute structure and function of tissue
59.	Homo	Same	Homotransplant	Skin grafting by using skin from a member of the same species

	Prefix	Definition	Usage	Definition
60.	Hyper	Excess of: above	Hyperglycemia	Excess of sugar in blood
61.	Hydr	Water	Hydrocephalus	Abnormal accumulation of fluid in cranium
62.	Hypo	Under: deficiency of	Hypoglycemia	Deficiency of sugar in blood
63.	Hyster	Uterus	Hysterectomy	Excision of the uterus
64.	Idio	Separate, self	Idiopathic	A disease self-originated (of unknown cause)
65.	Im or In	In	Infiltration	Accumulation in tissue of abnormal substances
66.	Infra	Below	Infra-orbital	Below the orbit
67.	Inter	Between	Intermuscular	Within the muscles
68.	Intra	Within	Intramuscular	Within the muscle
69.	Kerat	Horn, Cornea	Keratitis	Inflammation of cornea
70.	Lact	Milk	Lactation	Secretion of milk
71.	Leuk	White	Leukocyte	White cell
72.	Macro	Large	Macroscopic	Visible to unaided eye
73.	Mast	Breast	Mastectomy	Excision of the breast
74.	Meg/Megal	Great	Megacolon	Abnormally large colon
75.	Ment	Mind	Dementia	Deterioration of the mind
76.	Meta	Beyond; over; change	Metastasis	Change in the seat of a disease
77.	Micro	Small	Micropodia	Abnormal smallness of feet
78.	My	Muscle	Myocardium	The muscular tissue of the heart
79.	Myc	Fungi	Mycology	Science and study of fungi

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	Prefix	Definition	Usage	Definition
80.	Necro	Corpse, dead	Necrosis	Death of cells adjoing living tissue
81.	Neo	New	Neoplasm	Any new growth or formation
82.	Neph	Kidney	Nephritis	Inflammation of the kidney
83.	Neuro	Nerve	Neuron	Nerve cell
84.	Odont	Tooth	Odontology	Dentistry
85.	Olig	Little	Oligemia	Deficiency in blood volume
86.	Oophor	Ovary	Oophorectomy	Removal of an ovary
87.	Opthalm	Eye	Opthalmometer	An instrument for measuring the eye
88.	Ortho	Normal/straight	Orthograde	Carrying the body upright in walking
89.	Oss	Bone	Osseous	Bony
90.	Oste	Bone	Osteitis	Inflammation of bone
91.	Ot	Ear	Otorrhea	Discharge from ear
92.	Ovar	Ovary	Ovarian	Pertaining to the ovary
93.	Para	Irregular, around, wrong	Paraphrasia	Disorderly arrangement of spoken words
94.	Path	Disease	Pathology	Science of disease
95.	Ped	Children	Pediatrician	Child Specialist
96.	Ped	Feet	Pedograph	An imprint of the foot
97.	Peri	Immediately aroung	Periosteum	Sheath around bone
98.	Phleb	Vein	Phlebitis	Inflammation of a vein
99.	Phob	Fear	Phobia	A persistent morbid dread of fear
100.	Polio	Gray	Poliomyelitis	Inflammation of gray substance of spinal cord

	Prefix	Definition	Usage	Definition
101.	Pneum or Pneumon	Lung	Pneumococcus	Organism causing lobar pneumonia
102.	Poly	Many	Polyarthritis	Inflammation of several joints
103.	Post	After	Postpartum	After delivery
104.	Pre	Before	Prenatal	Occurring before birth
105.	Pro	Before	Prognosis	Forecast as to result of a disease
106.	Proct	Rectum	Proctectomy	Surgical removal of rectum
107.	Pseudo	False	Pseudoangina	False angina
108.	Psych	Soul of mind	Psychiatry	Treatment of mental disorders
109.	Py	Pus	Pyorrhea	Discharge of pus
110.	Pyel	Pelvis	Pyelitis	Inflammation of pelvis of the kidney
111.	Rach	Spine	Rachicentesis	Puncture into vertebra canal
112.	Ren	Kidney	Adrenal	Near the kidney
113.	Retro	Backward	Retroversion	Turned backward (usually pertaining to uterus)
114.	Rhin	Nose	Rhinitis	Inflammation of the nose
115.	Salping	Tube	Salpingotomy	Surgical incision of a uterine tube
116.	Semi	Half	Semicoma	Mild coma
117.	Septic	Poison	Septicemia	Poisoned condition of blood
118.	Somat	Body	Psychosomatic	Having bodily symptoms of mental origin
119.	Sta	Make stand	Stasis	Stoppage of flow of fluid
120.	Sten	Narrow	Stenosis	Narrowing of a duct or canal

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	Prefix	Definition	Usage	Definition
121.	Sub	Under	Subdiaphragmatic	Under the diaphragm
122.	Super	Above, excessively	Superacute	Excessively acute
123.	Supra	Above/Upon	Suprarenal	Above or upon the kidney
124.	Sym or Syn	With/Together	Symphesis	A growing together
125.	Tachy	Fast	Tachycardia	Fast beating heart
126.	Tens	Stretch	Extensor	A muscle extending a limb
127.	Therm	Heat	Diathermy	Theraputic production of heat in tissues
128.	Tox/Toxic	Poison	Toxemia	Poisoned condition of blood
129.	Trache	Trachea	Tracheitis	Inflammation of the trachea
130.	Trans	Across	Transplant	Transfer of tissue from one place to another
131.	Tri	Three	Trigastric	Having three bellies(muscle)
132.	Trich	Hair	Trichosis	Any disease of the hair
133.	Uni	One	Unilateral	Affecting one side
134.	Vas	Vessel	Vasoconstrictor	Nerve or drug that narrows blood vessels

	Suffix	Definition	Usage	Definition
1.	- algia	Pain	Cardialgia	Pain in the heart
2.	-asis/-osis	Affected with	Leukocytosis	Excess number of leukocytes
3.	-asthenia	Weakness	Neurasthenia	Nervous weakness
4.	-blast	Germ	Myeoblast	Bone marrow cell
5.	-cele	Tumor/Hernia	Enterocele	Any hernia of intestine
6.	-cid	Cut/kill	Germicidal	Destructive to germs
7.	-clysis	Injection	Hypdermoclysis	Injection under the skin
8.	-coccus	Round/ Bacterium	Pneumococcus	Bacterium of pneumonia
9.	-cyte	Cell	Leukocyte	White cell
10.	-ectasis	Dilatation/ Stretching	Anglectasis	Dilatation of a blood vessel
11.	-ectomy	Excision	Adenectomy	Excision of adenoids
12.	-emia	Blood	Glycemia	Sugar in blood
13.	-esthesia	Relating to sensation	Anesthesia	Absence of feeling
14.	-genic	Producing	Pyogenic	Producing pus
15.	-itis	Inflammation	Tonsillitis	Inflammation of tonsils
16.	-logy	Science of	Pathology	Science of disease
17.	-lysis	Loosing; flowing dissolution	Autoclysis	Dissolution of tissue cells
18.	-malecia	Softening	Ostemalecia	Softening of bone
19.	-oma	Tumor	Myleoma	Tumor made of muscle elements
20.	-osis	Being affected with	Atheroclerosis	Hardening of arterial walls
21.	-(o)stomy	Creation of an opening	Gastrostomy	Creation of an artificial gastric fistula

	Suffix	Definition	Usage	Definition
22.	-(o)tomy	Cutting into	Laparotomy	Surgical incision into abdomen
23.	-pathy	Disease	Myopathy	Disease of a muscle
24,	-penia	Lack of	Leukopenia	Lack of white blood cells
25.	-pexy	To fix	Proctopexy	Fixation of rectum by suture
26.	-phagia	Eating	Polyphagia	Excessive eating
27.	-phasia	Speech	Aphasia	Loss of power of speech
28.	-phobia	Fear	Hydrophobia	Fear of water
29.	-plasty	Molding	Gastroplasty	Molding or reforming stomach
30.	-pnea	Air or breathing	Dyspnea	Difficult breathing
31.	-poiesis	Making/forming	Hematophiesis	Forming(making) of blood
32.	-ptosis	Falling	Enteroptsis	Falling of intestine
33.	-rythmia	Rhythm	Arrythmia	Abnormal rhythm of heart
34.	-rrhagia	Flowing or bursting forth	Otorrhagia	Hemorrhage from ear
35.	-rrhaphy	Suture of	Enterorrhaphy	Act of sewing up gap in intestine
36.	-rrhea	Discharge	Otorrhea	Discharge from ear
37.	-sthen	Pertaining to strength	Asthenia	Loss of strength
38.	-taxia or -ptaxis	Order or arrangement of	Ataxia	Failure of muscular coordination
39.	-trophia or -trophy	Nourishment	Atrophy	Wasting away
40.	-uria	Pertaining to urine	Polyuria	Excessive secretion or urine

CPT L.W.Richard
M 65-340-012-4
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Word List

ABDUCTION - movement away from midline of the body; turning outward

ADDUCTION - movement of a limb toward the body's center; toward the midline

ATROPHY - the reduction of size in a structure after it has reached full functional maturity. When a muscle is unable or not called upon to work it shrinks and loses its capacity to perform work.

CIRCUMDUCTION - the distal part of a limb moving in a circle, the proximal end fixed

DISTAL - that which is farthest away from the center of the body

DORSIFLEXION - bending backward (foot)

EVERSION - turning outward

EXTENSION - movement to increase an angle of a joint; straightening out the joint

EXTERNAL ROTATION - turning outward away from the center

FLEXION - bending the various joints; movement to decrease the angle of a joint

HYPEREXTENSION - extension beyond the ordinary range

HYPERTROPHY - increase in size of an organ or structure which does not involve tumor formation; increase in size but no increase in number of cells.

INTERNAL ROTATION - turning inward toward the center

INVERSION - turning inward

MUSCLE TONE - firmness and tauntness of a muscle

PLANTAR FLEXION - bending forward (foot)

PRONATION - turning downward

PROXIMAL - that which is nearest to the center of the body

ROTATION - turning or movement of a part around its axis

SUPINATION - turning upward

NECK

Flexion--Extension

Bend neck forward, then back

1. Put chin on chest
2. Have patient look down during flexion
3. Have patient look up during extension

Lateral Flexion

Move head toward one shoulder, then the other

1. Have body in good alignment
2. Avoid bending neck forward

Rotation

Turn face to one side,then the other

1. Have patient look over his shoulder
2. Maintain good alignment

SHOULDER

Flexion--Extension

Raise arm overhead and return it to side

1. Support arm at elbow
2. Keep arm in close to side
3. Flex elbow if headboard interferes with movement
4. Bring elbow as close to head as possible

Abduction--Adduction

Move arm away from side and return it

1. Keep arm at bed level
2. Elbow may be flexed

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CPT L.W.Richard

ACADEMY OF HEALTH SCIENCES, USA
Nursing Science Division

M 65-340-012-5
067

Patient Situation

Ike S. Yantsy, R/A/MSG
67, male, caucasian, protestant
SSN 662-80-226

0900 You are assigned to Ward 16Z, a general medical ward. Today you are working days (7-3) when MSG(Ret.) Yantsy is admitted via w/c from ER with a diagnosis of acute congestive heart failure (CHF). You have been asked to admit the patient. You observe that the patient is experiencing moderate breathing difficulty and place him in a high Fowler's position. You notify the charge nurse and are told to start oxygen at 2L/min per nasal prongs.

In addition to what you already know about the patient, you obtain the following additional Nursing Data Base information, make further observations and perform nursing care as indicated:

Admission vital signs: T 98.9°(O), P 86(A), R 24; BP 136/82
Height: 5'6"; weight: 138 lbs
Hearing aid in right ear; upper and lower, full plate dentures
Allergies: Penicillin, aspirin
Patient complaints: "I seem to not be able to get my breath."
Patient gave all valuables to his wife to take home.
Patient states he routinely takes Digoxin and Lasix.
Prior to coming to the hospital, he took only Digoxin .25mg.
You observe that the patient has a foley catheter placed by ER which is patent and draining straw-colored urine. You do note that the patient is in need of perineal care badly. While completing perineal care, you note a reddened area on the patient's right hip which you massage. You encourage the patient to stay off his right hip as much as possible.

0930 You are asked by CPT Primer, the Charge Nurse, to start an IV of D5W TKO. You start the IV in the right arm using a 21 G Medicut.

1000 While making rounds, you note the patient's respirations increasing. They are now 30. You inform the Charge Nurse of the change.

1200 T 98.9°(O), P 90(A), R 32; BP 140/62. Patient had a soft-formed B.M. which was guaiac negative. Even though there has been an increase in respirations, you note no sign or evidence of cyanosis or frothy sputum. You inform the charge nurse of the current status of the patient. The patient ate hardly anything from his dinner tray.

Assignment:

1. Properly identify all patient chart forms in the appropriate places.
2. Write a patient admission note based on the information provided by the patient, your observations and all special care given to the patient.
3. Write continuing Nursing Notes as appropriate from the information provided.
4. Utilizing the Nursing Admission Data Base information and Doctor's Orders, initiate a nursing care plan for this patient.
5. Accurately chart T,P,R; BP readings on the TPR Graphic Sheet

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THIS SIDE UP WHEN PLACING IN CLINICAL RECORDS FOLDER.

MICROFILM THIS SIDE FIRST

USE IMPRINT FROM ADDRESS PLATE OR MIMEOGRAPH.

MS	Mary Schnarkel, RN
MJ	Marth Jarvis, RN
DG	Della Gee, RN
OS	Odessa South, RN
HD	Helen Diesel, RN
CP	Constance Primer,CPT,ANC
ZS	Zuila Shono, 1LT,ANC
TE	Terry Ebens, SFC,91C40
LC	Lonnie Classic,SP4,91C20

(D) DAY, (E) EVENING, (N) NIGHT

YEAR 1977	DOCTOR'S ORDERS	DATE DISC.	Aug DATE 31			Sep 1			2			2			4								
	ORIGINAL ORDERS SIGNED BY DOCTOR. WHEN COPIED, NURSE SIGNS DOCTOR'S AND OWN NAME.	DOCTOR'S INITIALS	SHIFT			SHIFT			SHIFT			SHIFT			SHIFT			SHIFT			SHIFT		
			D	E	N	D	E	N	D	E	N	D	E	N	D	E	N	D	E	N	D	E	N
31 Aug	1) Admit To WARD 162.																						
	2) Diagnosis: Acute Congestive Heart Failure																						
	3) Allergies: Penicillin, Aspirin																						
	4) Diet: 2 gm NA Restricted.																						
	5) Strict I & O																						
	6) Fluid Restriction: 1500 cc/24°																						
	7) IV: D5W TKO																						
	8) Foley Catheter to Straight drainage																						
	9) Irrigate Foley PRN																						
	10) O2 @ 2L/min NP																						

DD FORM 1 JUL 53 **728** REPLACES DD FORM 639, 1 MAY 52: DD FORM 641, 1 MAY 52: AND DD FORM 642, 1 MAY 52, WHICH ARE OBSOLETE.

* GPO : 1971 O - 418-430

067

YEAR 19 77

DOCTOR'S ORDERS (Con't)

ORIGINAL ORDERS SIGNED BY DOCTOR.
WHEN COPIED, NURSE SIGNS DOCTOR'S AND OWN NAME.

DATE DISC.	DATE Aug 31	Sep 1	2	3	4		
DOCTOR'S INITIALS	SHIFT D E N	SHIFT D E N	SHIFT D E N	SHIFT D E N	SHIFT D E N	SHIFT D E N	SHIFT D E

31 Aug 11) VS q̄ 3°
12) Ted Stockings
13) Guaiac All stools, Emesis and record results
14) Notify DR. if Resp. > 30, frothy Sputum or cyanosis
15) Lab:
pt-ptt, CBC, Serum lytes, urine lytes STAT
DiGoxin level in Am
16) Meds:
Lasix 20 mg Po q̄ Am
DiGoxin .25 mg Po q̄ Am
DR. Steve Kiley, Cpt, MC

31 Aug 1) DiGoxin .25 mg IV STAT Now
2) Chest x-ray STAT Now
Dr. Steve Kiley, Cpt, MC

SERVN NO/SSAN 662-80-226 WARD 162

AT THE END OF EACH SHIFT, NURSE WHO COMPLETED ORDERS WILL PLACE OWN INITIALS IN PROPER COLUMN.

NAME | GR | REGISTER NO | AGE | DATE OF ADM | DIAGNOSIS

MODIFICATIONS

L.P. # 65-340-013 of this publication has (have) been deleted in adapting this material for use in Vocational and Technical Education. Deleted material was not available at time of publication and its exclusion does not alter the value of remaining material.

CPT L.W.Richard

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

M 65-340-013-1
.057

Asepsis

Objectives:

1. Given a list of definitions, select the definitions of medical and surgical asepsis.
2. Given a diagram, label the components of the Chain of Infection.
3. Given a list, select the specific purposes for the use of both medical and surgical asepsis.
4. Given a list, select the basic concepts relating to sterility.
5. Given a list, select those guidelines and rules of sterile technique that would render a field/object either sterile or unsterile.
6. Demonstrate putting on and taking off a gown and mask without contamination.
7. Demonstrate donning disposable sterile gloves maintaining sterile technique.
8. Demonstrate how to establish and maintain an isolation area to include provision for control of elements introduced into the area, removal of linens and waste using the double bag technique.
9. Given certain situations, choose whether concurrent or terminal cleaning of an isolation unit is to be employed.
10. Demonstrate opening a sterile pack, setting up a sterile field, opening a syringe package, pouring a sterile liquid, withdrawing from a multidose vial.

NOTES

A. Terminology Related to Asepsis

1. Pathogen -

2. Sepsis -

3. Asepsis -

4. Infection -

B. Components of the Chain of Infection

1. Causative agent

2. Reservoir (source of infection)

a.

b.

c.

d.

e.

3. Portal of Exit

a.

b.

c.

d.

4. Mode of transportation/transmission

a.

b.

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5. Portal of Entry

   a.

   b.

   c.

   d.

6. Susceptible host

   a.

   b.

C. Division of Asepsis

   1. Medical asepsis:

   2. Surgical asepsis:

D. Medical Asepsis

   1. Definition

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2. Purpose of medical asepsis

   a.

   b.

   c.

3. Medical asepsis practices

   a.

   b.

   c.

   d.

   e.

      (1) Rationale -

      (2) Types -

         (a)

         (b)

         (c)

         (d)

         (e)

      (3) Establishment of isolation unit

      (4) Maintenance of isolation unit

4. Procedures

   a. Gowning

(1) Hold gown at neck opening and allow gown to unfold downward so that open back portion of gown faces individual.

(2) Holding inside of gown, slip one arm at a time into sleeve.

(3) Adjust gown on shoulder by placing fingers inside neckband (at the back).

(4) Tie neck tapes (ties) keeping hands clean and not touching hair.

(5) Grasp edges of gown and pull to back.

(6) Overlap edges of gown in same direction to avoid contamination.

(7) Roll gown edges towards body until gown fits snugly.

(8) Grasp waist belt (ties), draw together at back and tie snugly.

b. Gloving

(1) Obtain and unfold glove wrapper on a flat, clean surface

(2) Remove glove of predominant hand from wrapper by grasping folded edge of cuff-tip with opposite hand.

(3) Grasp folded edged of cuff top and keeping fingers straight, pull glove on predominant hand avoiding contamination.

(4) With gloved hand, slip fingers under folded cuff of remaining glove.

(5) Pull glove on left hand avoiding contamination.

(6) Adjust gloves.

c. Masking

(1) Obtain mask from container

(2) Place mask over nose and mouth, string over ears.

(3) Assure snug fit.

E. Surgical Asepsis

1. Definition -

2. Purpose of surgical asepsis

3. Concepts of sterility

   a.

   b.

   c.

   c.

4. Guidelines and rules for sterility (refer to student handout - Astericks indicate most important items)

5. Surgical asepsis practices

   a.

   b.

   c.

   d.

   e.

6. Procedures

a. Opening a sterile pack

   (1) Obtain sterile item

   (2) Loosen wrapper fastener (autoclave tape) and discard

   (3) Open distal flap, left flap, right flap and finally proximal flap, not reaching across sterile field and handling outside of wrapper only.

   (4) Place item on sterile wrapper avoiding contamination.

   (5) If opening prepackaged item, open item by either pulling wrapper away from body or laterally (side to side) avoiding contamination. Place item on sterile field.

b. Pouring sterile solutions

   (1) Remove cap/cover from container and place cap upside down on table or flat surgace.

   (2) Pour solution into sterile container on sterile field from 6-inch height. DO NOT splash or drip.

   (3) Replace cover without contamination and return container to proper storage.

c. Holding vial to withdraw sterile solution

   (1) Obtain vial and check label with doctor's order.

   (2) Clean vial stopper with alcohol pledget

   (3) Hold vial firmly, label up

   (4) Sterile person inserts sterile needle into vial stopper, inserts air and withdraws into syringe.

   (5) Sterile person withdraws from vial.

   (6) Vial is marked, replaced in storage or discarded as appropriate.

CPT L.W. Richard
M 65-340-013-2
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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Isolation Technique

A. Establishment of Isolation Unit

1. Private room or screened off area in close proximity to sink and stool.

2. In room equipment

    a. Thermometer and holder

    b. K-Y jelly

    c. B.P. cuff

    d. Stethoscope

    e. I.V. standard

    f. Container for contaminated needles

    g. Waste receptacle

    h. Linen hamper

    i. Linen bag

    j. Masks

    k. Gloves

    l. Paper towels

    m. Soap/disinfectant

    n. Personal hygiene articles

    o. Bedpan/urinal

    p. Emesis basin

    q. Kleenex and toilet tissue

    r. Dressing supplies

- s. Supply,paper bags
- t. Dinner tray and silver ware (optional)
- u. Other articles as necessary
- v. Plastic mattress cover

3. Outside the room equipment
    - a. Cabinet containing
        - (1) Gowns
        - (2) Masks
        - (3) Gloves
    - b. Wash basin
    - c. Germicidal solution
    - d. Paper towels
    - e. Waste receptacle
    - f. Spare linen
    - g. Spare paper bags

B. Types of Isolation

1. Strict isolation
    - a. Purpose - to prevent transmission of highly communicable disease and/or infection
    - b. Protective measures
        - (1) Keep door closed
        - (2) Gowns to be worn by all persons entering room
        - (3) Masks to be worn by all persons entering room
        - (4) Hands must be washed on entering and leaving room

(5) Gloves must be worn by all persons entering room

(6) Food, equipment and linen require special handling

2. Respiratory isolation

a. Purpose - same as strict

b. Protective measures

(1) Door must be kept closed

(2) Gowns not necessary

(3) Mask must be worn by all persons entering room

(4) Hands must be washed upon entering and leaving room

(5) Gloves not necessary

(6) Food, equipment and linen require special handling

3. Protective isolation (Reverse isolation)

a. Purpose - To prevent contact between potentially pathogenic microorganisms and uninfected persons who have seriously impaired resistance.

b. Protective measures

(1) Keep door closed

(2) Gowns must be worn by all persons entering room

(3) Masks must be worn by all persons entering room

(4) Hands must be washed before entering and leaving room

(5) Gloves must be worn by all persons entering room

(6) Use sterile equipment for care of patient

(7) Restrict visitors

(8) Limit trips into and out of room

4. Modified isolation: Adaptation of strict isolation precautions as they apply to a specific pathogen. Examples: wound and skin isolation, enteric precautions. Check local SOP isolation techniques.

C. Maintenance of Isolation Unit

1. Food

   a. Write "Isolation" on diet sheet

   b. Serve food on disposable dinnerware

   c. Pour unconsumed liquids down sink or hopper

   d. Place uneaten food and/or garbage in disposable bag and secure tightly.

   e. Double bag waste, mark as "Isolation" and send to incinerator

2. Equipment

   a. Any equipment necessary for patient care should be a disposable type if possible

   b. Bath basin, emesis basin, thermometer, stethoscope and sphygmomanometer remain in room.

   c. Any equipment which must leave the room will be disinfected as soon as it leaves the room

      (1) Any article which may be autoclaved is cleaned, double-bagged, marked "Isolation" and sent to CSR.

      (2) Articles which cannot be autoclaved will be disinfected before returning to general use.

3. Linen

   a. Place all patient's soiled linen in linen bag in room

   b. Linen bag is removed from room by double-bag technique, marked "Isolation" and sent to laundry

4. Excreta

   a. Nose and throat discharges

      (1) Supply patient with paper bag, tissues and/or sputum cup

      (2) Change bags and sputum cups at least q 8 hr

      (3) Handle trash by double bag technique and send for incineration

   b. Urine and feces

      (1) Use disposable urinals/bedpans if possible

      (2) Dispose of urine and feces in commode or toilet in room

      (3) If no toilet in room, carry covered bedpan or urinal to utility room and place in flusher. Flush first, steam two minutes and return to isolation unit.

   c. Drainage

      (1) Dressings - handle soiled dressings as trash. When removing from unit, double bag trash, mark "Isolation" and send for incineration.

      (2) Liquids - Measure, record amount and discard as other liquid.

5. Specimens (collection)

   a. Obtain specimen, collect in disposable container, label container "Isolation" and place in disposable bag.

   b. Double bag specimen, mark second bag "Isolation" and send to lab as appropriate.

D. Terminal Disinfection

1. Purpose - Eliminate and destroy pathogenic organisms in a patient's unit when the patient is discharged.

2. Put on gown, gloves before cleaning unit

3. Strip unit/cubicle or room

   a. Place all linen directly into laundry bag/hamper, secure, mark "Isolation" and send to laundry.

   b. Place blanket and pillow in separate laundry bag, mark "contaminated" and send to laundry.

   c. Place all disposable materials in bag and secure tightly, double bag and send to incinerator.

   d. Wipe all autoclavable materials and equipment with cold germicidal solution, place in proper bags marked "Isolation" and send to CSR for terminal sterilization.

   e. Send all personal items home with patient.

4. Wash entire bed, bedside locker, chair, overbed table and entire cubicle or room with a germicidal detergent solution, including walls up to six feet.

5. Dispose of all needles, syringes and glass materials in approved ward SOP. Double bag when removing from unit.

6. Make unoccupied bed and restock unit in readiness for new admission.

7. Wash hands thoroughly.

E. General Isolation Reminders

1. Floors are contaminated. Anything dropped on the floor is contaminated and must be discarded or cleaned carefully before reuse.

2. Keep dust down. Wet-mop often.

3. Protect the patient from drafts.

4. Establish contaminated and clean zones in isolation unit. Avoid mixing items considered contaminated areas.

5. Anything that is brought into the isolation area must not be removed except in proper containers, double bagged and labeled "Isolation".

6. Never rub your eyes or nose or put your hands near your mouth when you are taking care of a patient in an isolation unit.

7. Never shake linen when you are removing it or placing it on the bed.

8. Wash your hands often.

9. Use clean squares of paper or tissue to touch contaminated articles.

10. Paper towels or clean squares of paper provide a clean area on which to place articles within a unit.

11. Keep water pitcher and glass in room. Ice and fresh water are brought to the door and transferred. Use same technique for food.

12. Faucets should be turned off and on with a paper towel.

13. Nursing care and procedures carried out for isolated patients are the same as for any patient. The only difference is the utilization of additional safety precautions such as masking, gloving, gowning and disposal techniques.

14. Inform the charge nurse of any skin wounds, sores, sore throat, colds or other evidence of your lowered resistance to infection or disease.

CPT L.W.Richard

ACADEMY OF HEALTH SCIENCES, USA M 65-340-013-3
NURSING SCIENCE DIVISION 057
ENLISTED INSTRUCTIONAL BRANCH

Definitions Related to Asepsis

Asepsis: The absence of organisms (pathogens) causing disease.

Bacteriocide: A substance capable of destroying microorganisms but not spores.

Bacteriostatic: A substance that prevents growth of microorganisms.

Clean Technique: Synonym for medical asepsis.

Concurrent Disinfection: Ongoing practices which are observed in the care of a patient to limit or control a pathogenic organism.

Contagious Disease: A disease conveyed easily to others.

Contaminate: To render something unclean or unsterile.

Cross Contamination: The transfer of microorganisms from one person to another.

Disinfection: A process by which pathogens but not necessarily spores are destroyed.

Disinfectant: A substance used to destroy pathogens.

Infection: Invasion of the body by pathogens.

Isolation Technique: Practices to prevent transfer of microorganisms.

Medical Asepsis: Practices that help reduce the number and spread of microorganisms.

Microorganism: A tiny living animal or plant that can cause disease. Most are only visable with a microscope.

Nonpathogen: A microorganism that does not ordinarily cause disease.

Pathogen: A microorganism that causes disease.

Sepsis: Indicates the presence of pathogens.

Spore: A cell produced by a microorganism which develops into active microorganism under proper conditions.

Sterile: An item on which all microorganism have been destroyed.

Sterilization: A process by which all microorganisms, including spores, are destroyed.

Surgical Asepsis: Practices that render and keep objects and areas free of all microorganisms.

230 CPT L.W.Richard

ACADEMY OF HEALTH SCIENCES, USA M 65-340-013-4
NURSING SCIENCE DIVISION 057
ENLISTED INSTRUCTIONAL BRANCH

Concepts of Sterility

1. Sterile + sterile = sterile

2. Sterile + clean = unsterile

3. Sterile + contaminated = unsterile

4. Sterile + questionable = unsterile

Guidelines to Aseptic Technique

Packages:

1. When wrapped and sterilized, the inside of the package and its contents are sterile.

2. Sterile packages dropped on the floor are unsterile.

*3. A tear or hole in the wrapper or package renders the contents unsterile.

*4. Once the wrapper becomes damp or wet, the contents are unsterile.

5. Equipment in sterile wrappers is opened by pulling the wrap away from you first.

*6. Handle only that part of the wrapper which will be turned under or be in contact with the table or surface.

Sterile field:

1. Instruments and supplies are placed upon a sterile tray, towel, barrier, or wrapper.

2. The 1-inch border around the field is CONSIDERED unsterile if the edges are in contact with unsterile surfaces.

*3. Never turn your back on a sterile field.

*4. Do not reach, talk, or breathe over a sterile field.

*5. The field must be above waist level. Everything below waist level is unsterile.

*6. Never leave a sterile field unattended.

Solutions:

1. Before pouring sterile solutions, make certain that the bottle is clean.

2. When pouring solutions into a container on the field, be careful not to drip solution onto the field.

Sterile containers:

1. Stopper on lids which are used to cover sterile containers are placed upside down on a table to prevent contamination of the inside of the lid.

*2. Sterile gloves or instruments must be used to remove the contents of a sterile container.

Sterile gloves and instruments:

1. Skin cannot be made sterile - only clean

*2. All sterile objects must be handled with sterile instruments or sterile gloves.

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NURSING SCIENCE DIVISION 057
ENLISTED INSTRUCTIONAL BRANCH

Practical Exercises

Objectives:

1. Demonstrate proper medical handwashing technique.
2. Demonstrate putting on and taking off a gown and mask without contamination.
3. Demonstrate donning disposable sterile gloves maintaining sterile technique.
4. Demonstrate taking off disposable sterile gloves without contamination.
5. Assemble an isolation unit.
6. Demonstrate establishment and maintenance of an isolation area to include: provision for control of elements introduced into the area, removal of linens and waste using the double-bag technique.
7. Demonstrate concurrent and terminal cleaning of an isolation unit.
8. Demonstrate reverse isolation technique.
9. Demonstrate opening a sterile pack, setting up a sterile field, opening a syringe package, pouring a sterile liquid, withdrawing from a multidose vial.
10. Demonstrate removal of a soiled surgical dressing, application of a sterile dressing and disposal of contaminated waste.
11. Demonstrate the removal of sutures.

MODIFICATIONS

L.P.# 65-340-014 of this publication has (have) been deleted in adapting this material for use in Vocational and Technical Education. Deleted material was not available at time of publication and its exclusion does not alter the value of remaining material.

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M 65-340-014
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Pre and Postoperative Care of the Surgical Patient

Objectives

1. Perform preoperative nursing care in accordance with the Surgical Checklist, DA Form 3629.
2. Demonstrate instructing and assisting a patient to cough, turn, deep breathe and use blow bottles.
3. Demonstrate cleansing an open wound in preparation for surgery.
4. Apply anti-embolism stockings to a patient.
5. Given a list of symptoms, select the symptoms of immediate postoperative complications to include: pulmonary embolism, hemorrhage, shock and hypoxia.
6. Demonstrate suctioning of a patient to include: mouth, endotrachsal, and tracheostomy suctioning.
7. Demonstrate collection of a sputum specimen by suctioning.
8. Demonstrate admittance of a surgical patient back to the ward from recovery room to include: positioning, assembling necessary equipment, tranfer of patient to bed, observations of the wound and admission note.
9. Prepare a surgical bed.
10. Prepare a water sealed drainage and perform care of the drainage bottles to include safety precautions.
11. Apply a wet-to-dry dressing and warm soaks.

NOTES

A. Surgical checklist

   1. Purpose: To record that preoperative procedures have been accomplished

   2.

3.

4. Use

a.

b.

c.

(1)

(2)

5.

B. Cough, turn, deep breathe

1. Purpose:

2. Cough and deep breathe procedure:

a. Wash hands

b. Gather equipment

(1) Kleenex

(2) Emesis basin

c. Explain procedure

d. Position

e. Instruct patient to deep breathe

f. Instruct patient to breathe out

g. Repeat e and f

h. Instruct patient to deep breathe

i. Instruct patient to cough

j. Instruct patient to spit

k. Offer emesis basin, kleenex

l. Repeat procedure

m. Teach preoperatively

n. May split wound for support

o. Observe for hyperventilation

p. Wash hands

C. Blow Bottles

1. Purpose:

2. Procedure:

a. Wash hands

b. Explain procedure

c. Instruct patient to deep breathe

d. Instruct to blow water from one bottle to the other

e. Instruct to cough, deep breathe

f. Instruct to use frequently

D. Cleansing an Open Wound in Preparation for Surgery

1. Purpose:

2. Procedure:

a. Wash hands

b. Explain procedure

c. Gather equipment

d. Use aseptic technique

e. Cleanse vigorously

f. Clean area and wash hands

E. Applying Anti-embolism Stockings

1. Purpose:

2. Use:

3. Procedure:

a. Explain procedure

b. Wash hands

c. Roll stockings over hands

- d. Raise patient's leg
- e. Pull over leg
- f. Elevate legs
- g. Apply second stocking
- h. Do not massage legs
- i. Change stockings daily

F. Postoperative Complications

1. Rules for postoperative care
   - a.
   - b.
   - c.
   - d.
   - e.
   - f.
2. Pulmonary embolism
   - a. Definition: a foreign body in the blood stream which travels to the pulmonary artery or one of its branches
   - b. Symptoms
     - (1)

(2)

(3)

(4)

c. Nursing care procedures

(1)

(2)

(3)

(4)

d.

e. Preventative measures

(1)

(2)

(3)

(4)

3. Hemorrhage

a. Definition: a copious escape of blood from a blood vessel

b. Symptoms

(1)

(2)

(3)

(4)

(5)

c. Nursing care

(1)

(2)

(3)

(4)

4. Shock

a. Definition: a response of the body to a decreased circulating volume of blood

b. Symptoms

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

c. Nursing care procedures

(1)

(2)

(3)

(4)

(5)

5. Hypoxia (anoxia)

a. Definition: A state in which there is insufficient oxygen available in the tissue cells to meet the requirements of an organ or tissue at the moment.

b. Symptoms

(1)

(2)

(3)

(4)

(5)

(6)

c. Nursing care

(1)

(2)

(3)

(4)

G. Suctioning a Patient

1.

2. Preparation procedure

a. Wash hands

b. Explain procedure

c. Gather equipment

d. Prepare catheter (aseptic technique)

(1) Remove catheter

(2) Attach Y-connector

e. Position patient

(1) Provide privacy

(2) Bed at working height

(3) Sit patient upright

f. Turn on suction

g. Put on sterile gloves

3. Mouth suctioning

a.

b.

c.

(1)

(2)

d.

e.

f.

4. Endotracheal suctioning

a.

b.

c.

d.

(1)

(2)

5. Tracheostomy suctioning

   a. Tracheostomy: An incision into the trachea usually for insertion of cannula to facilitate breathing.

   b.

   c.

   d.

   e.

      (1)

      (2)

      (3)

      (4)

   f. Tracheobronchial suctioning

      (1) Test patency of catheter

      (2) Trach tube securely in place

      (3) Inject saline

      (4) Insert catheter 5 inches

         (a) Patient to breathe in

         (b) Moisten for easy insertion

(c) Do not put thumb over suction control during insertion

(5) Close valve, withdraw catheter

(a) Thumb over Y-connector

(b) Rotate catheter

(c) Catheter in trachea no longer than 10-15 seconds

(6) Aspirate right bronchus

(a) Insert catheter 8-12 inches

(b) Raise patient's right shoulder, chin up, and turn head to left

(c) Insert catheter 1-2 inches, thumb over suction control

(d) Rotate catheter and withdraw 1-2 inches

(7) Aspirate left bronchus

(a) Raise left shoulder, chin up, turn head to right

(b) Insert catheter 1-2 inches; suction on

(c) Withdraw catheter

(8) Allow patient to rest

(9) Dispose of catheter

(10) Remove gloves

(11) Change dressing

(12) Leave patient comfortable

(13) Record procedure

6. Cuffed tracheostomy tubes

   a.

   b.

   c.

   d.

7. General nursing care of patient with tracheostomy

   a.

   b.

   c.

   d.

   e.

8. Sputum specimen by suctioning

   a. Gather equipment

   b. Wash hands, explain procedure

   c. Use aseptic technique

   d. Connect Y-connector to sputum collection set up

   e. Connect suction catheter to sputum collection set up

   f. Suction

   g. Disconnect sputum collection set up

   h. Label specimen; send to lab

   i. Clean area; wash hands

H. Admission back to ward postoperatively

1.

2.

   a.
   b.
   c.
   d.
   e.

3.

   a.
   b.

4.

5.

6.

a.

b.

7. Position patient for comfort

a.

b.

8.

a.

b.

9.

10.

11.

12.

13.

14.

15.

a.

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b.

c.

d.

e.

f.

I. Water-sealed chest drainage

1. Closed chest drainage: Evacuation of air and/or fluid from pleural cavity.

   a.

   b.

2. Procedure - Closed chest drainage without suction

   a. Gather equipment

   b. Set up bottles, use aseptic technique

      (1) Connect drainage tube to glass tubing, first bottle

      (2) Fill second bottle to water line with sterile water - mark level

      (3) Connect tubing from first bottle to glass tubing second bottle

      (4) Air-vent, second bottle

      (5) Place in holder, tape to holder

      (6) Tape holder to floor & tape all connections

      (7) Mark fluid level

      (8) Connect tubing to chest tube and tape connections

      (9) Have nurse check set up

(10) Unclamp tubing

(11) Pin tubing to bedding

3. Closed chest drainage to Emerson suction

   a. Gather equipment

   b. Set up bottles using sterile technique

      (1) Fill to water line using sterile water - mark level

      (2) Connect tubing to glass tube first bottle

      (3) Connect first and second bottle

      (4) Second bottle connected to suction

      (5) Tape connections

      (6) Attach chest tube to drainage tubing

      (7) Have nurse check set up

      (8) Turn on suction

      (9) Unclamp chest tube

      (10) Pin tubing to bedding

4. General nursing care and safety precautions

   a.

   b.

   c.

   e.

   f.

g.

J. Warm moist soaks

1. Purpose:

2. Procedure - Intermittent

a. Explain procedure

b. Gather equipment

c. Wash hands

d. Warm the saline

e. Pour in basin

f. chucks under affected area

g. Wet 4x8's, place on affected area

h. Leave on as prescribed

i. Remove

j. Clean area; wash hands

3. Procedure - Continuous soaks: same as intermittent
but leave on continuously and replace
periodically

K. Wet-to-dry dressing

1. Purpose:

2. Procedure:

a. Explain procedure

b. Gather equipment

c. Wash hands

d. Use sterile technique

e. Moisten gauze

f. Apply to wound

g. Clean area; wash hands

h. Remove gauze when dry

i. Replace in same manner as ordered

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LP 65-340-015
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Care of the Immobilized Patient (7 hours)

COURSES PRESENTED TO: Clinical Specialist (Primary Technical) Course, 300-91C20

PLACE: Classroom, 1st hour; PE and hospital areas, 2nd - 7th hours

REFERENCES:

TM 8-230, chap 5, pp 5-200, 5-211, 5-215, 5-225
Brunner, Lillian S. and Suddarth, Doris S. (1). The Lippincott Manual of Nursing Practice. Philadelphia: J. B. Lippincott Co., 1974. pp 779-799.
____(2). Textbook of Medical-Surgical Nursing. 3d ed. Philadelphia: J. B. Lippincott Co., 1975. pp 970-981; 991-995.
Larson, Carroll, and Gould, Marjorie. Orthopedic Nursing. 8th ed. St. Louis: C. V. Mosby Co., 1974. pp 51-65.

STUDY ASSIGNMENT: Review TM 8-230, chap 5. pp 5-200, 5-211, 5-215, 5-225.

STUDENT UNIFORM AND EQUIPMENT: Not applicable

TOOLS, EQUIPMENT, AND MATERIALS: Handout M 65-340-015-1

PERSONNEL:

INSTRUCTIONAL AIDS: Overhead projector, transparencies(5) T 65-340-015-1 through 5.

TROOP REQUIREMENTS: Not applicable

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: L, D, PE

FIRST HOUR

I. INTRODUCTION (3 min)

A. Opening Statement: Any patient who is confined to bed is essentially an immobilized patient. Because of their inactivity or inability to move about these patients require special nursing care. Even the best health care team's ingenuity may be taxed in providing quality care for this patient. It takes both imagination and skill to meet this patient's needs in a skillful, efficient manner and still maintain the patient in safety and comfort.

NOTE: Refer students to mimeo

B. Objectives

1. Identify the signs of pressure on the skin due to immobilization of the body or a body part.

2. Given a list identify the signs of impaired circulation.

3. Define skeletal and skin traction.

4. Perform traction care to include positioning, maintaining weights, countertraction and hygiene.

5. Apply Buck's traction.

6. Demonstrate the rotation of a patient on a Foster or Stryker turning frame.

7. Prepare a patient for crutch ambulation to include adjusting the crutches and teaching the 5 kinds of crutch walking.

8. Demonstrate care of the patient with a cast to include care of the wet cast, dry cast, personal hygiene, skin care and exercises (isometrics).

9. Apply a dressing and apptopriately wrap a stump.

10. Remove a cast.

11. Remove a plaster splint.

C. Class Procedure and Lesson Tie-in:

This is the first of a 7 hour block on care of the immobilized patient. This hour of lecture will be followed by a 2 hour demonstration of the procedures discussed here, and 4 hours practical exercise where you will practice these procedures.

NOTE: Refer to Annex A, T 65-340-015-1

II. EXPLANATION (45 min)

A. Increased pressure

1. Signs

        a. Localized redness (or signs of breakdown)

        b. Localized pain

        c. Localized temperature change of the skin

    2. Nursing care procedures

        a. Relieve or remove pressure

        b. Stimulate circulation

        c. Keep skin clean and in healthy condition

        d. Decubitus care if needed according to ward SOP

B. Impaired circulation

    1. Signs

        a. Unrelieved pain

        b. Swelling

        c. Blanching or discoloration

        d. Tingling or numbness

        e. Pulselessness

        f. Temperature change of the skin

    2. Nursing care procedures

        a. Elevate extremity

        b. Observe for anything binding the extremity (i.e., cast or bandages)

        c. Notify charge nurse

C. Traction: A constant pulling force applied to a part of the body.

    1. Skin traction: applied directly to the skin

    2. Skeletal traction: applied to the bone with pins or wires.

NOTE: Refer to Annex A, T 65-340-015-2

3. Purpose of traction
    - a. To correct and maintain skeletal alignment
    - b. To reduce pressure on joint surfaces (arthritis)
    - c. To rest muscles
    - d. To inhibit or reduce swelling
    - e. To elevate limb for better drainage
4. Care of the patient in traction
    - a. Change position frequently
    - b. Maintain body in alignment with traction
    - c. Maintain weights
        - (1) Weights as prescribed by doctor
        - (2) Off of floor
        - (3) Ropes not touch foot of bed or be impinged by bed clothes
        - (4) Heels not dig into mattress
    - d. Maintain counter-traction

QUESTION: What is counter-traction?

ANSWER: A pull exerted in the opposite direction of the pull produced by the traction apparatus.

- (1) Pull exerted against fixed point (pelvis when leg is in Thomas splint).
- (2) Elevating foot of bed under part being placed in traction (foot of bed when Buck's traction is applied to lower extremity).

e. Hygiene

- (1) Provide routine bed bath

(2) Frequent skin care

(a) Massage

(b) Observe skin integrity

(3) Observe for signs of pressure

(4) Observe for signs of impaired circulation

(5) Pin care for skeletal traction

(a) Observe for signs of infection

(b) Cleanse area according to ward SOP

D. Buck's Traction

1. Skin traction applied to one extremity utilizing one pulley.

2. Nursing care

a. Maintain loose bed covers--prevent foot drop

b. Protect heels (or elbows) from rubbing

c. Keep linen wrinkle free

d. Make sure bandages are not too tight

e. Observe for signs of pressure

f. Observe for signs of impaired circulation

g. Avoid achilles tendon and perineal nerve when wrapping

NOTE: Refer to Annex A, T 65-340-015-3

NOTE: Buck's traction will be demonstrated following lecture

E. Care of Patient With a Cast

1. Purpose of cast: to protect, support and immobilize.

2. Wet cast

a. Grayish white, dull sound when thumped

b. Lift with palm of hands

c. Let dry about 12 hours turning every 2 hours

d. Observe for signs of pressure

d. Observe for signs of impaired circulation

3. Dry cast

a. Will be shiny white with a hollow sound when tapped

b. Protect edges

(1) Petal edges

(2) Protect around perineal area with polyethelene stripping

c. Keep clean

d. Do not put anything down cast

QUESTION: Why is it harmful to put anything down a cast?

ANSWER: It can cause skin abrasion and breakage which may lead to infection and necrosis of tissue.

4. Personal hygiene

a. Skin care

(1) Check areas around edges of cast for irritation and cleanliness

(2) Encourage position change

(3) Massage skin

(4) Observe for signs of increased pressure or impaired circulation

b. Routine AM, PM care

5. Exercise

    a. Leg

        (1) Quads - place hand under knee, instruct patient to bear down

        (2) Leg lifts - lift leg straight off bed

        (3) ROM as prescribed by doctor

    b. Arm

        (1) Instruct patient to make fist

        (2) ROM as prescribed by doctor

F. Crutch Ambulation

1. Crutch measurement

    a. Length - height of patient minus 16"

    b. Crutches do not touch axilla - about 2" under axilla

QUESTION: Why should crutches not touch axilla?

ANSWER: Will depress the nerve and can cause paralysis

    c. Hand pieces - elbows bent 20-30° when gripping crutches.

2. Instruction to patient

    a. Place crutches 4" to side and 4" in front of subject

    b. Shift weight from side to side and front to back

    c. Shift weight to opposite side of crutch being lifted

    d. Walk on hands

    e. Rest on arm pits

3. Crutch gaits

    a. Four point alternate gait

        (1) Safe gait

        (2) Slow gait

        (3) Good used in crowds

    b. Two point alternate gait

        (1) Speed-up of four point gait

        (2) Faster gait

    c. Three point gait

        (1) Used to stimulate normal gait

        (2) Encourages gradual weight bearing on weaker extremity

    d. Swing to gait

    e. Swing through gait

G. Removing a Cast

1. Explain procedure to patient

2. Gather equipment

    a. Chucks under cast

    b. Cast cutter

    c. Cast spreader

3. Cut cast

    a. Avoid boney prominences

    b. Cut down both sides of cast

4. Spread cast

5. Cut padding

6. Remove cast gently

7. Wash area

    a. Use mild soap

    b. Sponge dry

8. Support on pillows

H. Removing a Plaster Splint

1. Use - to support, immobilize, protect

2. Check for any underlying dressings

3. Cut or unwrap ace

4. Gently remove extremity from splint

5. Wash area

    a. Use mild soap

    b. Sponge dry

I. Dressing and Wrapping a Stump

1. Dressing a stump

    a. Utilize sterile technique

    b. Place 4 x 8's over closure

    c. Avoid tape to skin

NOTE: Refer to Annex A, T 65-340-015-4
Stump wrapping will be demonstrated following lecture.

2. Wrap a stump

    a. To shrink or reduce edema

    b. Do not impair circulation when wrapping

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c. Equipment

(1) 2-3 4" or 6" ace wraps

(2) Tape

NOTE: Refer to Annex A, T 65-340-015-5 Demonstrated in 2nd hour.

J. Foster and Stryker Turning Frames

1. For immobilization of spine and turning at frequent intervals.

2. Advantages

a. Easily turned by use of pivoting mechanism

b. Better immobilization is secured

c. Good positioning is easily maintained

d. Turning is more comfortable for patient

3. Before turning explain procedure to patient and which way will turn

4. Safety precautions when turning

a. Be sure patient is secure

b. Nothing obstructing turning

c. Grasp frame firmly

d. Turn quickly and smoothly

e. Secure screw or lock after turning and before removing top frame.

5. Traction may be applied to frame if needed

K. Questions From Students

III. SUMMARY (2 min)

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A. Review of Main Points

1. Increased pressure
2. Impaired circulation
3. Traction
4. Buck's traction
5. Care of a patient with a cast
6. Crutch ambulation
7. Removing a cast
8. Removing a plaster splint
9. Dressing and wrapping a stump
10. Foster and Stryker turning frames

B. Closing Statement: In this hour we have discussed many aspects of the immobilized patient. Immobilization is hard for the average person to accept, for he must depend almost entirely on the nursing care team for his every need. These patients are dependent on you and you can benefit them best by using knowledge and expertise in caring for them. Don't let them down--they depend on you.

SECOND AND THIRD HOURS Demonstration

NOTE: See Annex B for set up

I. **INTRODUCTION** (5 min)

A. Opening Statement: In the previous hour of instruction we have discussed care of the immobilized patient. An immobilized patient will often have special equipment and special needs. You, the 91C20, will have to know how to use and operate this equipment, in order to meet the needs of the individual patient.

B. Objectives

1. Apply Buck's traction
2. Demonstrate the turning of a patient on a Foster or Stryker turning frame

3. Prepare a patient for crutch ambulation to include adjusting the crutches and teaching 5 kinds of crutch ambulation.

4. Apply a dressing and appropriately wrap an amputee's stump.

5. Remove a plaster cast.

II. DEMONSTRATION (95 min)

A. Applying Buck's traction - leg

1. Check skin integrity

QUESTION: Why must you check skin integrity prior to applying Buck's traction?

ANSWER: Any breakdown in the skin may be intensified or exaggerated when Buck's traction is applied and, therefore, application may be contra-indication if such breakdown is present.

2. Shave extremity

3. Apply adhesive or moleskin

   a. Avoid pressure points

   b. Allow 4" at top to fold under

4. Wrap with ace

   a. Begin at small end of limb

   b. Avoid Achilles tendon

   c. Tuck in 4" flap at top and overwrap

5. Put spreader bar in place

6. Attach traction rope and slip through pulley

7. Attach to weight bag using traction knot and release weights gently

8. Check entire set up

   a. Check body alignment and correct if necessary

b. Check for counter traction

c. Check positioning of weights

(1) Not touching bed frame

(2) Off of floor

B. Turning a Patient on a Foster Frame

1. Remove or secure external apparatus, i.e., armboards, catheters, etc.

2. Fasten anterior and posterior frame so patient is held snugly.

3. Apply turning straps

4. Loosen screw lock

5. Turn patient by rotating frame

6. Remove top frame and replace external apparatus

C. Dress and wrap an amputee's stump

1. Place sterile 4 x 8 over end of stump

QUESTION: What is the purpose of bandaging a stump?

ANSWER: 2. Purpose: to prevent edema and shrink stump.

3. Equipment: 2-3 4" ace wraps

4. Begin at groin and wrap over end of stump and up back of thigh to gluteal fold.

5. Carry down back of thigh, over end of stump somewhat obliquely, and up to groin.

6. Down obliquely again, over inner aspect of stump and up back of thigh to gluteal fold.

NOTE: Maximum force of bandage should be at end of stump and diminish as bandage ascends.

7. Make 1-2 circular turn of bandage around thigh at groin level.

8. Two spiral turns of bandage down over end of stump
9. Turn patient on normal side
10. Spiral bandage upward around stump
11. Make figure 8, bring bandage across abdomen, around hip on normal side, across back and around stump.
12. Spiral to end of stump, and secure bandage end with tape.

D. Remove a Plaster Cast

1. Explain procedure to patient
2. Grasp cast cutter firmly
3. Thumb touches cast
    a. Serves as depth gauge
    b. Serves as guard in front of blade
4. Push saw firmly and gently through cast - will feel resistance
5. Will "give" when through cast
6. Lift blade up a degree and advance in direction of cut
7. Spread cast with spreader
8. Cut padding
9. Remove cast

E. Crutch Ambulation

1. Adjusting crutches
    a. Adjust length
        (1) Height of patient minus 16 inches.
        (2) Top of crutch does not press against axilla

b. Adjust hand pieces - elbow bent 20-30° after gripping hand pieces

2. Instructions to patient

   a. Crutches placed 4" in front of subject and 4" to side

   b. Weight borne on hands not armpits, with elbows flexed 20-30°

   c. Shift weight - side to side and front to back

   d. Shift weight - to opposite side of crutch being lifted

F. Standard Crutch Gaits

1. Four point alternate gait

   a. Sequence

      (1) right crutch

      (3) Left foot

      (4) Right foot

   b. Three points on floor at all times

2. Two point alternate gait

   a. crutch sequence

      (1) Right crutch, left foot simultaneously

      (2) Left crutch, right foot simultaneously

3. Three point gait

   a. Crutch sequence

      (1) Both crutches and weaker extremity

      (2) Stronger lower extremity

   b. Used to stimulate normal gait and encourage gradual weight bearing

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4. Swing to gait
    a. Crutch sequence
        (1) Both crutches forward
        (2) Lift and swing body to crutches
        (3) Replace crutches in front of body
    b. Used by amputee
5. Swing through gait
    a. Crutch sequence
        (1) Both crutches forward
        (2) Lift and swing beyond crutches
        (3) Return to starting position

G. Questions From Students

III. SUMMARY (5 min)

A. Review of Main Points
1. Applying Buck's traction
2. Turning a patient on a Foster frame
3. Wrap a stump
4. Remove a plaster splint
5. Remove a plaster cast
6. Crutch ambulation

B. Closing Statement: During this period we have demonstrated the proper use of some special equipment and procedures you will be expected to know about and use as 91C20's. In order to provide good patient care you must be competent in use of these appliances.

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FOURTH THROUGH SEVENTH HOURS Practical Exercise

I. INTRODUCTION (5 min)

A. Opening Statement: The immobilized patient requires much individualized care and it will be the responsibility of you, the 91C20, to provide him with this care. In order to provide the care he needs you must be familiar with and gain expertise in procedures which are associated with the immobilized patient. It is only through practice that you can gain this expertise, and in the following practical exercises you will practice some of the procedures we discussed in lecture and demonstrated to you.

B. Objectives

1. Apply Buck's traction

2. Demonstrate the rotation of a patient on a Foster or Stryker turning frame

3. Prepare a patient for crutch ambulation to include adjusting the crutches and teaching the 5 kinds of crutch walking

4. Apply a dressing and appropriately wrap a stump

5. Remove a cast

C. Class Procedure and Lesson Tie-in: This is a four hour practical exercise following one hour lecture and two hours demonstration on the immobilized patient. This relates to those previous hours and to care of the immobilized patient you will perform in Phase II and in subsequent hospital assignments.

II. APPLICATION (200 min)

A. General Plan For Conducting Practical Exercise

1. Students will divide into 5 groups of twenty students

2. Students will complete task at assigned station

3. Every 30 minutes students will rotate counterclockwise to next station

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4. If time permits after all stations are completed students will begin cycle again and complete as many stations again as possible.

NOTE: Refer to Annex C

B. Instructors' Activities

1. Assign students to PE stations - maximum 20 students per station

NOTE: Refer to Annex B

2. Instruct students and supervise activities

3. Evaluate students performance on checklist

NOTE: Refer to Annex D

4. Maintain discipline

5. Discuss student's performance with student

C. Students' Activities

1. Turn patient on Foster/Stryker frame

2. Dress and wrap a stump

3. Remove a cast

4. Apply Buck's traction

5. Perform crutch ambulation

6. Watch AV tape - cast care

NOTE: Additional AV tapes will be available for students who complete task at station before alloted time is up.

III. REVIEW (10 min)

A. Question From Students

B. Review of Main Points

1. Turn a patient on a Foster/Stryker frame

2. Dress and wrap a stump
3. Remove a cast
4. Apply Buck's traction
5. Perform crutch ambulation
6. AV tape - cast care

C. Closing Statement: In this exercise you have had the opportunity to gain some experience in performing skills necessary in care of immobilized patients. Quality care can only be given if these skills are performed properly and competently.

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ANNEX A
INSTRUCTIONAL AIDS

Transparencies

T 65-340-015-1	For class notes. To follow LP 65-340-015 in conjunction with mimeo.
T 65-340-015-2	Picture - Person in traction
T 65-340-015-3	Picture - Buck's traction
T 65-340-015-4	Diagram - Proper method of wrapping stump
T 65-340-015-5	Picture- Foster frame

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T 65 340-015-1 A. Increased Pressure

1. Signs
    a. Localized pressure
    b. Localized pain
    c. Localized temperature change of the skin
2. Nursing care procedures
    a. Relieve or remove pressure
    b. Stimulate circulation
    c. Keep skin clean and in healthy condition
    d. Decubitus care if needed

B. Impaired Circulation

1. Signs
    a. Unrelieved pain
    b. Swelling
    c. Blanching or discoloration
    d. Tingling or numbness
    e. Pulselessness
    f. Temperature change of the skin
2. Nursing care procedures
    a. Elevate extremity
    b. Observe for anything binding the extremity
    c. Notify charge nurse

C. Traction: a constant pulling force applied to a part of the body.

T 65-340-015-1(cont) 1. Skin traction: Applied directly to the skin

2. Skeletal traction: Applied to the bone with wires or pins

3. Purposes of traction

   a. To correct or maintain skeletal alignment

   b. To reduce pressure on joint surfaces

   c. To rest muscle

   d. To inhibit or reduce swelling

   e. To elevate limb for better drainage

4. Care of the patient in traction

   a. Change position frequently

   b. Maintain alignment

   c. Maintain weights

      (1) Weights as prescribed

      (2) Off of floor

      (3) Ropes do not touch bed or impinged by bedding

      (4) Heels do not dig into mattress

   d. Maintain counter-traction

      (1) Pull exerted against fixed point

      (2) Elevate foot of bed under extremity in traction

   e. Hygiene

      (1) Provide routine bed bath

      (2) Frequent skin care

(a) Massage

(b) Observe skin

(3) Observe for signs of pressure

(4) Observe for signs of impaired circulation

(5) Pin care (skeletal traction)

(a) Observe for signs of infection

(b) Cleanse area according to ward SOP

D. Buck's Traction

1. Skin traction appled to one extremity utilizing one pulley

2. Nursing care

a. Maintain loose bed covers

b. Protect heels (or elbows)

c. Keep linen wrinkle free

d. Make sure bandages not too tight

e. Observe for signs of pressure

f. Avoid Achilles tendon and perineal nerve when wrapping

E. Care of the Patient With a Cast

1. Purpose: protect, support, immobilize

2. Wet cast:

a. Grayish white, dull sound

b. Lift with palms

c. Dry 12 hours

d. Observe for signs of pressure

T 65-340-015-1
(cont)

e. Observe for signs of impaired circulation

3. Dry cast
    - a. Shiny white, hallow sound
    - b. Protect edges
        - (1) Petal edges
        - (3) Protect perineal area
    - c. Keep clean
    - d. Put nothing down a cast
4. Personal hygiene
    - a. Skin care
        - (1) check edges for irritation and cleanliness
        - (2) Encourage position change
        - (3) Massage skin
        - (4) Observe for signs of increased pressure or impaired circulation
    - b. Routine AM, PM care
5. Exercises
    - a. Leg
        - (1) Quads - hand under knee, instruct to bear down
        - (2) Leg lifts
        - (3) ROM (Range of motion) as prescribed
    - b. Arm
        - (1) Instruct to make a fist
        - (2) ROM as prescribed

T 65-340-015-1 (cont)

F. Crutch Ambulation

1. Crutch measurement
    a. Length
    b. Crutches do not touch axilla
    c. Hand pieces
2. Instructions to patient
    a. Crutches 4" to side and 4" in front
    b. Shift weight from side to side, front to back
    c. Shift weight to opposite side of crutch being lifted
    d. Walk on hands
    e. Rest on arm pits
3. Crutch gaits
    a. Four point alternate gait
        (1) Safe gait
        (2) Slow gait
        (3) Good used in crowds
    b. Two point alternate gait
        (1) Speed up of four point gait
        (2) Faster gait
    c. Three point gait
        (1) Stimulate normal gait
        (2) Encourage weight bearing
    d. Swing to gait
    e. Swing through gait

T 65-340-015-1 (cont)

G. Removing Cast
   1. Explain procedure
   2. Gather equipment
      a. Chucks
      b. Cast cutter
      c. Cast spreader
   3. Cut cast
      a. Avoid boney prominences
      b. Cut both sides of cast
   4. Spread cast
   5. Cut padding
   6. Remove
   7. Wash area
      a. Mild soap
      b. Sponge dry
   8. Support on pillows

H. Removing a Plaster Splint
   1. Use: support, immobilize, protect
   2. Check for underlying dressing
   3. Cut ace
   4. Gently remove
   5. Wash
      a. Mild soap
      b. Sponge dry

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T 65-340-015-1
(cont)

I. Dressing and Wrapping a Stump

1. Dressing a stump

a. Sterile technique

b. 4X8's over closure

c. Avoid tape to skin

2. Wrap a stump

a. To shrink or reduce edema

b. Do not impair circulation when wrapping

c. Equipment

(1) Ace wraps

(2) Tape

J. Foster or Stryker Turning Frame

1. For immobilization and frequent turning

2. Advantages

a. Easily turned

b. Better immobilization

c. Good positioning easily maintained

d. Turning more comfortable

3. Explain procedure to patient

4. Safety precautions

a. Patient secure

b. Nothing obstructing patient

c. Grasp frame firmly

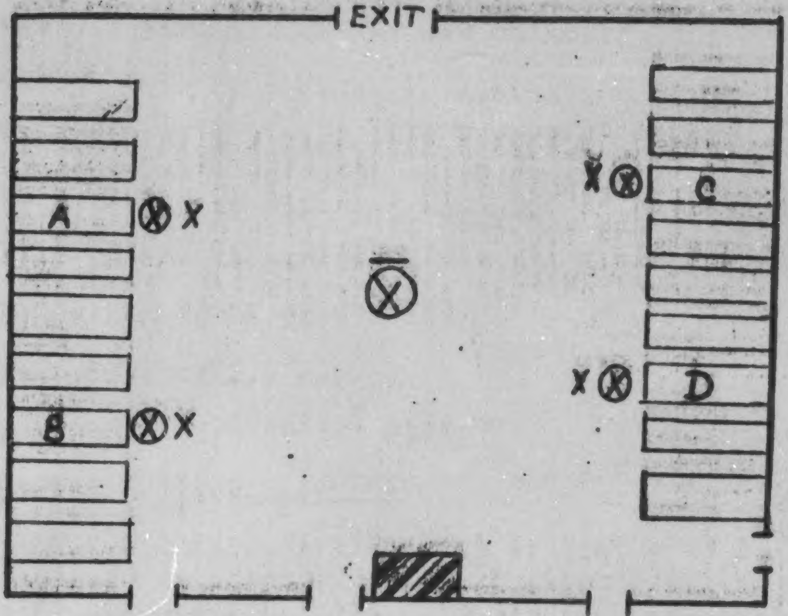
d. Turn quickly and smoothly

e. Secure screw or lock after turning

5. Traction may be applied

ANNEX B

DEMONSTRATION STATIONS



A. Demonstration of Foster Frame

B. Demonstration of Buck's Traction

C. Demonstration of Crutch Ambulation

D. Demonstration of Cast Removal and Stump Wrapping

X Primary Instructor

X Assistant Instructor

X Demonstrative Assistant Instructor

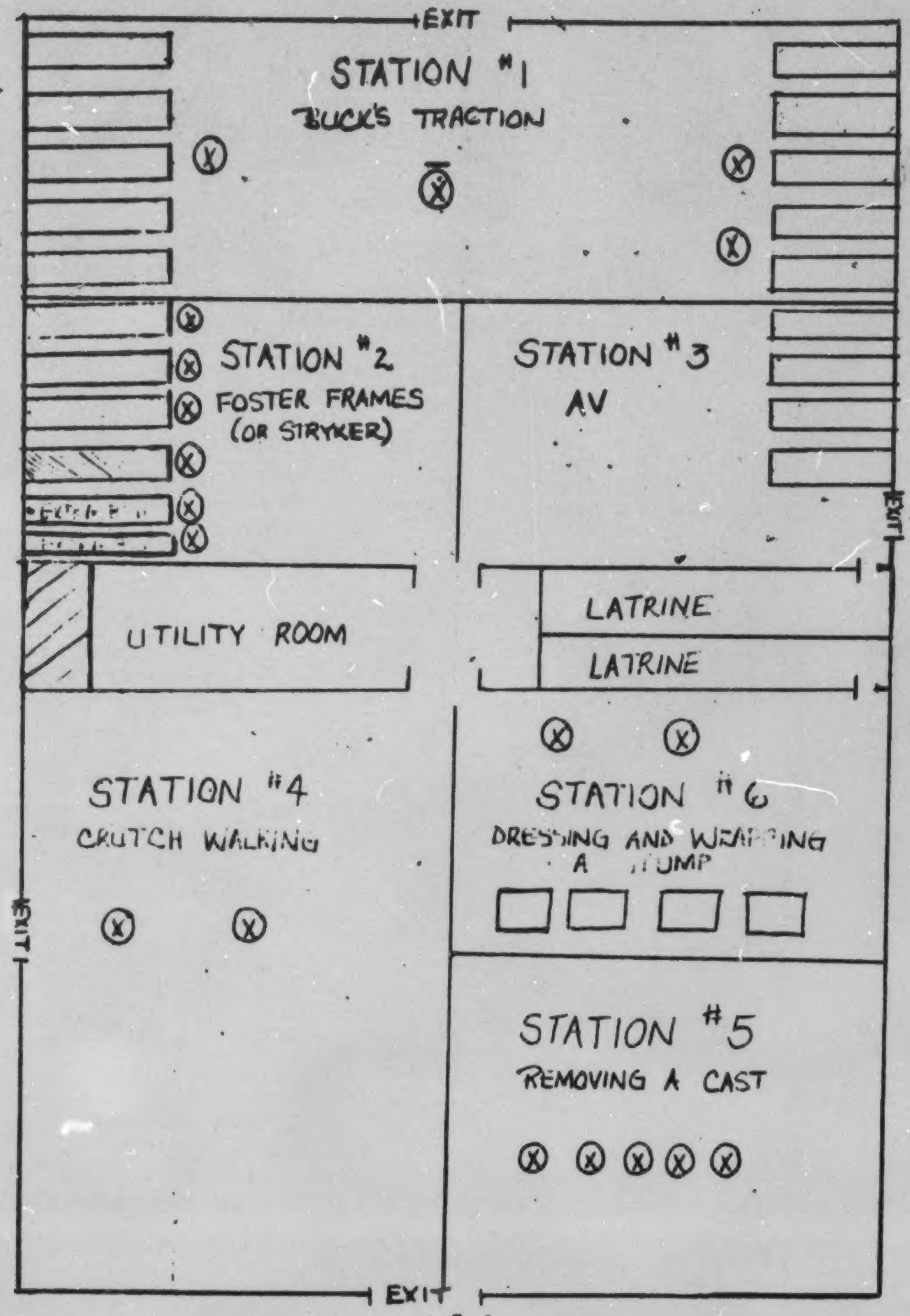
* Students divide into 4 groups - 25 students each

* Students will rotate counterclockwise through each station

* 30 min. per station

ANNEX C

Arrangement of PE Stations


EXIT
STATION #1
BUCK'S TRACTION
STATION #2
FOSTER FRAMES
(OR STRYKER)
STATION #3
AV
EXIT
UTILITY ROOM
LATRINE
LATRINE
STATION #4
CRUTCH WALKING
EXIT
STATION #6
DRESSING AND WRAPPING
A STUMP
STATION #5
REMOVING A CAST
EXIT

Station #1 - Applying Buck's Traction

Ten beds, students will pair off and apply Buck's traction to each other. 13 minutes per student to apply Buck's traction. Conducted in hospital area.

Station #2 - Foster Frames

Students will divide into groups of three. Two students will turn the third student in the frame. When completed students will change positions and rotate frame again. Any students who are not turned will return to station after all other stations are completed. 13 minutes per student to rotate patient. Conducted in hospital area.

Station #3 - AV - Cast Care

Conducted in hospital area.

Station #4 - Crutch walking

Students will pair off. One student will adjust crutches to partner and teach crutch walking. Students will then switch roles. 13 minutes per student to teach crutch walking. Conducted in P.E. area.

Station #5 - Removing a Cast

Students will divide into groups of four, one cast cutter per group. Each student will remove cast from another student. 7 minutes per student to remove cast. Conducted in P.E. area.

Station #6 - Dressing and wrapping a Stump

Students will divide into groups of five. In turn each student will dress and wrap a stump. One student may assist student wrapping stump if necessary. Conducted in P.E. are.

*20 students per group
*Groups rotate every 30 minutes to next station
X Primary Instructor (Supervises all PE Station activities)
  2 necessary
X Assistant Instructors - 18 necessary

Procedure Checklist

A. Applying Buck's Traction

1. Explain procedure to patient
2. Gather equipment
3. Check skin integrity
4. Shave extremity
5. Apply moleskin avoiding pressure points
6. Apply moleskins leaving 4" flap at top
7. Wrap with ace beginning small end of limb
8. Wrap ace avoiding achilles tendon
9. Wrap ace tucking in 4" flap at top
10. Wrap ace snugly but do not restrict circulation
11. Place spreader bar in place appropriately
12. Attach traction rope to spreader bar using traction knot
13. Tie traction knot correctly
14. Place rope through pulley
15. Tie rope to weight bag using traction knot
16. Release weights gently
17. Check for proper body alignment
18. Correct body alignment if necessary
19. Checks for counter traction
20. Check for proper placement of weights
21. Weights do not touch bed
22. Weights are off of floor

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B. Turning Patient On a Foster Frame

1. Explain procedure to patient
2. Gather equipment
3. Remove or secure external apparatus
4. Place anterior and posterior frame in place
5. Apply turning straps
6. Patient is held securely
7. Loosen screw lock
8. Rotate Foster frame evenly
9. Remove top frame
10. Replace external apparatus

C. Dress and Wrap an Amputee's Stump

1. Explain procedure to patient
2. Gather equipment
3. Open dressing packages appropriately
4. Place 4 x 8's in proper position using sterile technique
5. Begin wrapping at groin, down middle of thigh, over end of stump and up back of thigh to gluteal fold.
6. Bring bandage down back of thigh obliquely over end of stump and up thigh to groin level.
7. Bring bandage down thigh, obliquely over end of stump and up back of thigh to gluteal fold.
8. Make 1-2 circular turns around thigh
9. Turn patient on normal side
10. Spirals bandage upward around thigh, make figure 8 encompassing stump and abdomen

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11. Spirals bandage to end of stump
12. Fasten end with tape
13. Maximum force of bandage is at end of stump
14. Bandage is snug but not too tight

D. Remove A Plaster Cast

1. Explain procedure to patient
2. Gather equipment needed
3. Hold cast with one hand
4. Cut cast bilaterally
5. Avoid boney prominences when cutting cast
6. Spread cast and cut padding
7. Gently removes cast

E. Crutch Ambulation

1. Explain procedure to patient
2. Gather equipment
3. Adjust length so crutches are in proper position under armpit
4. Adjust handpieces so elbow is bent 20-30° when grasping crutches
5. Instruct patient in proper placement of crutches (4" in front of subject and 4" to side)
6. Instruct patient to bear weight on hands
7. Instruct patient to shift weight to opposite side of crutch being lifted
8. Demonstrate 4 point alternate crutch gait

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9. Demonstrate 2 point alternate crutch gait

10. Demonstrate 3 point alternate crutch gait

11. Demonstrate swing to gait

12. Demonstrate swing through gait

ANNEX E

Equipment

4" Ace Wraps - 250

4" Moleskin - 150 yds

Traction Rope - 100 ft

Bags for weights - 10

1 lb. weights - 50

Foot Spreader Bars - 10

Adult Crutches - 10 sets

Stump Mannikins - 4

Cast Cutters - 5

Pulley and Traction Bar (for Buck's traction) - 10

Cast Spreaders - 5

Scissors - 5 pairs

Paper Tape 1" - 10 rolls

CPT E. Simmerman
M 65-340-015-1
037

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Care of the Immobilized Patient

Objectives

1. Identify the signs of pressure on the skin due to immobilization of the body or a body part.
2. Given a list identify the signs of impaired circulation
3. Define skeletal and skin traction
4. Perform traction care to include: positioning, maintaining weights, countertraction, and hygiene.
5. Apply Buck's traction
6. Demonstrate the rotation of a patient on a Foster or Stryker turning frame.
7. Prepare a patient for crutch ambulation to include: adjusting the crutches and teaching the five kinds of crutch walking.
8. Demonstrate care of the patient with a cast to include: care of the wet cast, dry cast, personal hygiene, skin care and exercises (isometrics).
9. Apply a dressing and appropriately wrap a stump.
10. Remove a cast
11. Remove a plaster splint

NOTES

A. Increased Pressure

1. Signs

a.

b.

c.

2. Nursing care procedures

a.

b.

d.

B. Impaired Circulation

1. Signs

a.

b.

c.

d.

e.

f.

2. Nursing care procedure

a.

b.

c.

C. Traction: A constant pulling force applied to a part of the body

1. Skin traction:

2. Skeletal traction:

3. Purpose of traction:

a.

b.

c.

d.

e.

4. Care of the patient in traction

   a.

   b.

   c.

      (1)

      (2)

      (3)

      (4)

   d. Maintain counter-traction

      (1)

      (2)

   e. Hygiene

      (1)

      (2)

         (a)

         (b)

      (3)

      (4)

      (5)

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(a)

(b)

D. Buck's Traction

1.

2.

a.

b

c.

d.

e.

f.

g.

E. Care of the Patient With a Cast

1. Purpose:

2. Wet cast

a.

b.

c.

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d.

e.

3. Dry cast

a.

b.

(1)

(2)

c.

d.

4. Personal hygiene

a. Skin care

(1)

(2)

(3)

(4)

b. Routine AM and PM care

5. Exercises

a. Leg

(1)

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(2)

(3)

b. Arm

(1)

(2)

F. Crutch Ambulation

1. Crutch measurement

a.

b.

c.

2. Instruction to patient

a.

b.

c.

d.

e.

3. Crutch gaits

a.

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(1)

(2)

(3)

b. Two point alternate gait

(1)

(2)

c. Three point gait

(1)

(2)

d. Swing to gait

e. Swing through gait

G. Removing a Cast

1.

2.

a.

b.

c.

3. Cut cast

a.

b.

4.

5.

6.

7.

8.

H. Removing a Plaster Splint

1.

2.

3.

4.

5.

I. Dressing and Wrapping a Stump

1. Dressing a stump

a.

b.

c.

2. Wrapping a stump

a.

b.

c.

J. Foster and Stryker Turning Frames

1.

2.

a.

b.

c.

d.

3.

4.

a.

b.

c.

d.

e.

5.

Care of the Immobilized Patient

Any patient who is confined to bed is essentially an immobilized patient. Because of their inactivity or inability to move about these patients require special nursing care. Even the best health team's ingenuity may be taxed in providing quality care for this patient. It takes both imagination and skill to meet this patient's needs in a skillful, efficient manner and still maintain the patient in safety and comfort.

One of the primary steps in dealing with the immobilized patient is to observe for any signs of increased pressure. Signs that should be observed for are any localized redness or signs of skin breakdown, any localized pain, or localized temperature change of the skin. Increased pressure is most common in areas over bony prominences such as the buttocks, heels and elbows. Be sure to thoroughly inspect these areas and never ignore a patient's complaint of pain in such an area. Performance of AM and PM care provides a good opportunity for you to inspect for increased pressure, but such observations should also be made periodically throughout the day. If any signs of increased pressure are noted, remove or relieve the source of pressure immediately. This may be accomplished by anything from repositioning the patient to removing a cast. Stimulate circulation. This may be done by massaging the area or ROM exercises unless contraindicated. Always keep the skin clean and in a healthy condition. If decubiti have occurred, perform decubitus care at regular intervals and keep the patient off of the affected area. Decubitus care may vary from ward to ward, so check with the SOP before performing it.

If increased pressure is not relieved it may impair the patient's circulation. There are six major signs of impaired circulation which should be observed for. Unrelieved pain is one of the earliest signs. Never ignore such complaints! Swelling also is very prevalent. For instance, a patient with a cast that has been applied too tightly may exhibit swelling of the digits on that extremity. Therefore it is important to always check the fingers or toes of a patient with a cast. Blanching or discoloration is another sign of impaired circulation. Check nailbeds regularly by pressing on the nail, releasing it, and observing for refill. Any delay in refill should be noted immediately. Tingling or numbness is also a sign of impaired circulation as is temperature change of the skin. This will usually be a cooling of the affected area and should be observed by comparing the affected area with an unaffected area. For instance, if you suspect a hand of being cool, compare it with the temperature of the other hand.

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If you suspect that impaired circulation may be present immediately elevate the area. Observe for anything binding the extremity such as bandages or a cast and notify the charge nurse.

Often an immobilized patient will have traction applied. Traction is simply a pulling force applied to a part of the body. There are basically two kinds of traction, skin traction is traction which is applied directly to the skin. Skeletal traction is traction which is applied to the bone with pins or wire.

Traction may serve many purposes. It may be used to correct and maintain skeletal alignment such as with fractures. It may also be used to reduce pressure on joint surfaces, such as with arthritis. It may be employed to simply rest muscles or to inhibit or reduce swelling. Elevation of a limb for better drainage is another purpose for which traction is used.

There are several guidelines which should be followed when caring for a patient in traction. First, always provide for frequent position changes. Of course you cannot change the position of the traction itself, however, the patient can be positioned with the use of pillows, sandbags and donut rings so that constant pressure is not exerted on one area. Always maintain the body in alignment with the traction. If a leg is in traction, for example, be sure it is on a straight line with the traction. It is important to always maintain the weights properly when traction is used. Always use the weights as prescribed by the doctor. Be sure the weights are not on the floor or resting on the bed. Be sure the traction ropes are not touching the foot of the bed or are impinged by the bedding. Always assure that the patients' heels do not dig into the mattress. This not only impairs the efficiency of the traction but can also cause pressure breakdown and impaired circulation to the heels.

Always maintain a countertraction, that is, the pull exerted in the opposite direction of the pull produced by the traction. This is produced by exerting a pull against a fixed point, such as the pelvis when the leg is in a Thomas splint. It can also be accomplished by elevating the foot of the bed under the part placed in traction, for instance, elevate the foot of the bed when Buck's traction is applied to a lower extremity.

Good hygiene is important in providing quality care for the patient in traction. In addition to providing routine bed baths, it is also imperative to give frequent skin care to include massaging and observing skin integrity. Observe the skin for signs of pressure and impaired circulation. Pin care should be provided for the patient in skeletal traction. Observe the pin area for signs of infection and cleanse the area according to ward SOP.

One of the most commenly used types of traction is Buck's Traction. It is a very simple skin traction applied to one extremity and utilizing one pulley. When using Buck's traction always maintain loose bed covers to help prevent foot drop. Protect heels (or elbows) from rubbing. This can be done by placing a roll under the calf. Keep the linen wrinkle-free in order to prevent pressure and make sure the ace wrap is not too tight. Observe for any signs of impaired circulation or pressure. When wrapping the ace wrap avoid the Achilles tendon and peroneal nerve.

The patient with the cast requires specialized and individual care. The purpose of the cast is to protect, support and immobilize the part to which it is applied. When the cast is wet there are guidelines which should be followed to insure the maintenance of the integrity of the cast. A wet cast will be grayish-white with a dull sound when thumped. When lifting a wet cast use the palms of your hands. If you lift with your fingers it may leave indentations in the cast. It generally takes about 12 hours for a cast to dry depending on the size of the cast. When the cast is drying, the patient should be turned about every 2 hours to allow for even drying. Place the wet cast on pillows and observe the area for any signs of increased pressure or impaired circulation.

When the cast is dry it will be shiny white with a hollow sound when tapped. Once the cast is dry the edges should be protected thereby helping maintain both the cast and decrease any irritation to the patient's skin. This can be done by applying strips of adhesive tape around the edge, which is known as petaling. When the cast is near the perineal area, that area of the cast should be protected from body excretions. Using polyethelene stripping, a water proof stripping, will aid in preserving the cast integrity.

Casts will from time to time cause some itching, however, never put anything down a cast. It can cause skin abrasion and breakdown which may lead to infection and necrosis of the tissue.

Good personal hygiene should be encouraged and maintained for the patient in a cast. This includes checking the area around the edges of the cast for irritation and cleanliness, encouraging position change, massaging the skin and observing for signs of increased pressure and impaired circulation. Routine AM and PM care must also be performed.

The patient in a cast must also be encouraged to exercise the extremity in the cast. This is accomplished by the use of isometric exercises. When a patient has a leg cast, simply place your hand under the knee and instruct the patient to bear down, exercising the quadrecaps. Leg lifts should also be done. Simply instruct the patient to lift his leg straight off of the bed. These leg exercises along with range of motion exercises should be performed frequently but should only be done when prescribed by the doctor.

If the patient has an arm cast simply instruct him to make a fist which will exercise the arm muscles. Also ROM exercises should be encouraged, but both exercises only as prescribed by the doctor.

You may at some time be called upon to instruct a patient in crutch ambulation. There are definite procedures which must be followed when instructing and assisting a patient in crutch ambulation. First, the crutches must be measured to the individual. First measure the length of the crutches. Generally, that is the patient's height minus 16". The crutches should be about 2 inches under the axilla and must not touch the axilla. Pressure exerted on the axilla for a length of time may depress the brachial plexis nerve bundle and cause damage or paralysis of the arm.

After adjusting the length the hand pieces must be adjusted. The elbows should be bent 20°-30° when gripping the crutches.

Instruct the patient to place the crutches 4 inches in front and 4 inches to the side when preparing to crutch walk. When crutch ambulating instruct patient to shift his weight from side to side and front to back. The weight should also be shifted to the opposite side of the crutch being lifted. You should instruct the patient to walk with the weight on the hands and to rest with the weight on the arm pits, but only for short periods.

There are five basic crutch gaits with which you need to be familiar. The first is the four point alternate gait. This crutch gait is a safe, slow gait and is good for use in crowds. The two point gait is simply a speed up of the four point gait and is a faster gait. The three point gait is used to stimulate the normal gait and encourages gradual weight bearing on the weaker extremity. The swing-to gait and swing-through gait are often utilized by amputees.

Another procedure which you may be called upon to perform is that of removing a plaster cast. This can be a scarey experience for a person and therefore it is important to explain the procedure to the patient before starting. Gather all necessary equipment to include chucks, cast cutter, and cast spreader. When cutting the cast avoid cutting over boney prominences such as the elbow or ankle. Cut down both sides of the cast, spread the cast and cut the padding. Remove the cast gently, wash the area using mild soap, sponge dry and support it on pillows.

Removing a plaster splint is done similarly to removing a cast, except no cutting is necessary. A splint is used for the same purposes as a cast, that is to support, immobilize and protect. When removing a splint first check for any underlying dressing and then cut or unwrap the ace wrap. Gently remove the extremity from the splint, wash with mild soap, sponge dry and place on pillows.

Care of an amputee requires special nursing care and among the tasks which you may be required to perform is dressing or wrapping a stump. If the operative sight is not closed, a dressing is applied prior to wrapping the stump. The same principles apply to this dressing as any other sterile dressing. Always use sterile technique. Place 4x8's over the closure. This may vary according to the doctor's order or ward SOP. When applying the dressing avoid tape on the skin if possible as this may cause irritation when the stump is wrapped.

A stump is wrapped in order to help shrink the stump or to reduce edema. When you wrap the stump be sure the ace wraps are snug but do not impair circulation. In order to wrap the stump you will need 2 to 3 4-inch or 6-inch ace wraps and paper tape. The patient may assist you and may be taught how to wrap the stump himself.

Foster and Stryker turning frames are utilized with the immobilized patient for immobilization of the spine and to allow turning the patient at frequent intervals. There are several advantages for using such a turning frame. It allows the patient to be turned easily by use of a pivoting mechanism and also secures better immobilization of the patient. When a turning frame is used, good positioning is easily maintained and turning is more comfortable for the patient.

Before turning a patient on a turning frame explain the procedure to him and tell him which way he will be turned. Always when turning be sure the patient is secure and that nothing is obstructing the turning. Grasp the frame firmly and turn the patient quickly and smoothly. After turning and before removing the top frame be sure the screw or lock is secure. These are all safety precautions which must be followed when caring for the patient on a Foster or Stryker turning frame.

Another feature of the turning frames is that traction, if needed, can be applied. Therefore, a patient with spinal injuries and other injuries requiring traction can be more easily cared for with the use of a turning frame.

During this block of instruction care of the immobilized patient has been discussed. We have discussed signs of increased pressure and impaired circulation due to immobilization. The principles of traction and Buck's traction in particular have been discussed. We have also talked about care of the patient with a cast, instructing and assisting with crutch ambulation, removing a cast and removing a plaster splint. Dressing and wrapping an amputee's stump have been discussed and also care of the patient on a Foster or Stryker turning frame.

In this hour we have discussed many aspects of care of the immobilized patient. Immobilization is hard for the average person to accept, for he must depend almost entirely on the nursing care team for his every need. These patients are dependent on you, and you can benefit them best by using knowledge and expertise in caring for them. Don'tlet them down; they depend on you!

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

CPT E. SIMMERMAN
M 65-340-015-1
057 303

Care of the Immobilized Patient

Objectives

1. Identify the signs of pressure on the skin due to immobilization of the body or a body part.
2. Given a list identify the signs of impaired circulation
3. Define skeletal and skin traction
4. Perform traction care to include positioning, maintaining weights, countertraction, and hygiene.
5. Apply Buck's traction
6. Demonstrate the rotation of a patient on a Foster or Stryker turning frame.
7. Prepare a patient for crutch ambulation to include adjusting the crutches and teaching the five kinds of crutch walking.
8. Demonstrate care of the patient with a cast to include care of the wet cast, dry cast, personal hygiene, skin care and exercises (isometrics).
9. Apply a dressing and appropriately wrap a stump.
10. Remove a cast
11. Remove a plaster splint

NOTES

A. Increased pressure

   1. Signs

      a.

      b.

      c.

   2. Nursing care procedures

      a.

      b.

      c.

B. Impaired Circulation

1. Signs

a.

b.

c.

d.

e.

f.

2. Nursing care procedure

a.

b.

c.

C. Traction - A constant pulling force applied to a part of the body

1. Skin traction

2. Skeletal traction

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3. Purpose of traction

a.

b.

c.

d.

e.

4. Care of the patient in traction

a.

b.

c.

(1)

(2)

(3)

(4)

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d.

(1)

(2)

e. Hygiene

(1)

(2)

(a)

(b)

(3)

(4)

(5)

(a)

(b)

D. Buck's traction

1.

2.

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a.

b.

c.

d.

e.

f.

E. Care of the Patient With a Cast

1. Purpose:

2. Wet cast:

a.

b.

c.

d.

e.

3. Dry cast

a.

b.

(1)

(2)

c.

d.

4. Personal hygiene

a. Skin care

(1)

(2)

(3)

(4)

b. Routine A.M. and P.M. care

5. Exercises

a. Leg

(1)

(2)

(3)

b. Arm

(1)

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(2)

F. Crutch Ambulation

1. Crutch measurement

a.

b.

c.

2. Instructions to patient

a.

b.

c.

d.

e.

3. Crutch gaits

a. Four point alternate gait

(1)

(2)

(3)

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b. Two point alternate gait

(1)

(2)

c. Three point gait

(1)

(2)

d. Swing to gait

e. Swing through gait

G. Removing a Cast

1.

2.

a.

b.

c.

3. Cut cast

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a.

b.

4.

5.

6.

7.

8.

H. Removing a Plaster Splint

1.

2.

3.

4.

5.

I. Dressing and Wrapping a Stump

1. Dressing a stump

a.

b.

c.

2. Wrapping a stump

a.

b.

c.

J. Foster and Stryker Turning Frames

1.

2.

a.

b.

c.

d.

e.

3.

4.

a.

b.

c.

d.

e.

5.

SFC Dennis B. Shelley

ACADEMY OF HEALTH SCIENCES, USA LP 65-340-016
NURSING SCIENCE DIVISION 057

Simple Disorders of the Skin(1 hr)

COURSES PRESENTED TO: 300-91C20 Clinical Specialist (Primary Technical) Course

PLACE: Classroom

REFERENCES:

TM 8-230, Chap 10, pp 10-27, pp 10-28
Brunner, pp 719-732
Lippincott, pp 568-586
Thompson and Rosdahl, pp 517-520
Wood, Vol III, Unit 6, pp 227-246

STUDY ASSIGNMENT: TM 8-230, Read chap 10, pp 10-27, 10-28

STUDENT UNIFORM AND EQUIPMENT: N/A

TOOLS, EQUIPMENT, AND MATERIALS:

Overhead projector; slide projector and screen; M 65-340-016-1, issued at beginning of class.

PERSONNEL: One instructor (91C4H)

INSTRUCTIONAL AIDS:

S 65-340-016-1 through S 65-340-016-12

TROOP REQUIREMENTS: N/A

TRANSPORTATION REQUIREMENTS: N/A

METHOD OF INSTRUCTION: Lecture

I. INTRODUCTION (2 min)

A. Opening Statement: The largest organ of the body is the skin or Integumentary System. It comprises approximately 15% of the total body weight. The study of diseases of the skin is called "dermatology."

B. Objective

Identify the causes, symptoms, medical treatment, and nursing care of acne vulgaris, urticaria, poison ivy, impetigo, cellulitis, furuncle, carbuncle, athlete's foot, Herpes Simplex, warts, frostbite and immersion foot.

C. Class Procedure and Lesson Tie-in:

This class will present the necessary background information for the clinical specialist to assist patients with simple disorders of the skin.

II. EXPLANATION (45 min)

A. (Sebaceous Gland Disorders) Acne Vulgaris

1. Cause

a. Increased activity of sebaceous glands

b. Increased size of sebaceous glands

2. Symptoms

a. Comedo (blackhead) on chin, nose or forehead

b. Papules and small pustules on chin, nose and forehead

3. Medical Treatment and Nursing Care

a. Good skin hygiene

b. Well balanced diet

c. Ultraviolet light treatment

d. Emotional factors

B. Allergic Skin Reactions (Contact Dermatitis)

1. Urticaria (Hives)

a. Cause

(1) Food sensitivity

(2) Drug sensitivity

(3) Inhalent Allergy

(4) Infections

(5) Chemicals

(6) Bites and stings

b. Symptoms
    (1) Spontaneous development of wheals
    (2) Increased fever
    (3) Circumscribed lesions and areas of edema
    (4) Lesions are usually pink or skin colored
    (5) Usually begin on trunk
c. Medical Treatment and Nursing Care
    (1) Eliminate suspected cause
    (2) Antihistamine therapy
    (3) Epinephrine
    (4) Sedation

2. Poison Ivy
    a. Causes
        (1) Vegetable irritant (poison ivy) direct contact
        (2) Secondary contact with oils from Poison Ivy
    b. Symptoms
        (1) Skin eruption
        (2) Swelling and edema of certain areas
        (3) Intense itching
    c. Medical Treatment and Nursing Care
        (1) Cleanse area well
        (2) Application of Topical Ointments and Lotions
            (a) Hot compresses of liquid Aluminum Acetate
            (b) Application of calamine lotion

C. Infectious Dermatitis

1. Impetigo

    a. Causes

        (1) Streptococcal

        (2) Staphylococcal

    b. Symptoms

        (1) Redness

        (2) Vesicles break open and leave sticky yellow exudate

        (3) Exudate crusts

    c. Medical Treatment and Nursing Care

        (1) Remove crusts with soap and water

        (2) Various ointments may be applied by Doctor's order

        (3) Severe cases may require antibiotics

2. Cellulitis

    a. Causes

        (1) Streptococcal

        (2) Secondary to other skin disorders

    b. Symptoms

        (1) Redness

        (2) Spreads in flat planes

        (3) Pus is present

    c. Medical Treatment and Nursing Care

        (1) Careful cleaning and sterile technique

        (2) Rest and elevation of affected extremity

        (3) Antibiotic therapy

3. Furuncle

   a. Cause

      (1) Acute infection of a hair follicle

      (2) Usually a staphlococcal infection

   b. Symptoms

      (1) Whitish, tender, painful spot in middle of reddened area

      (2) Fever

      (3) Malaise

   c. Medical Treatment and Nursing Care

      (1) Hot soaks used to localize

      (2) Surgical removal of core and pus

      (3) Antibiotic therapy

      (4) Rest

4. Carbuncle

   a. Cause

      (1) Acute infection of hair follicles

      (2) Usually a staphlococcal infection

   b. Symptoms

      (1) Painful group of furuncles

      (2) Fever

   c. Medical Treatment and Nursing Care

      (1) Hot soaks

      (2) Surgical removal of cores and pus

      (3) Antibiotic therapy

      (4) Rest

      (5) May require hospitalization

5. Athlete's Foot

   a. Cause

      Fungus infection that attacks skin between toes

   b. Symptoms

      (1) Burning and itching of soles of feet and between toes

      (2) Watery blisters

      (3) Moist weepy lesions

   c. Medical Treatment and Nursing Care

      (1) Prevention is best

      (2) Desenex and foot powder

      (3) Rotation of shoes and boots and changing socks frequently

QUESTION: What is the best treatment for Athlete's Foot?

ANSWER: Prevention is the best treatment for Athlete's Foot.

6. Herpes Simplex (Fever Blister, Cold Sore)

   a. Cause

      (1) Viral

      (2) Emotional

   b. Sumptoms

      (1) Small blisters on lips or in mouth

      (2) Painful lesions with burning sensation

      (3) Vesicles may have exudate which later crusts

   c. Medical Treatment and Nursing Care

      (1) 10% Aluminum Acetate solution wet dressing

(2) Spirits of Camphor

(3) Small pox vaccine has been used to treat recurrent Herpes Simplex

7. Warts

a. Warts are caused by virus

b. Symptoms

(1) Small brownish or yellow bumps

(2) Singly or in bunches

(3) Plantar warts is usualy on sole of feet

c. Medical Treatment and Nursing Care

(1) Short, high frequency electric spark (electrodesiccation)

(2) Cryotherapy

(3) Application of acid

(4) X-ray

(5) Ultrasound

(6) Surgical

QUESTION: What is the cause of warts?

ANSWER: Warts are caused by virus.

D. Thermal Injuries

1. Frostbite

a. Caused by tissue freezing and stopping blood supply

b. Symptoms

(1) Frozen part becomes pale and waxy

(2) Lack of pain or feeling in area

c. Medical Treatment and Nursing Care

(1) Warm gradually but do not rub

(2) Rest and elevation of affected extremity

(3) Antibiotic therapy

2. Immersion Foot

a. Caused from prolonged immersion in warm water for more than 48 hours

b. Symptoms

(1) Maceration

(2) Swelling

(3) Pain, itching and burning

c. Medical Treatment and Nursing Care

(1) Keep feet dry

(2) Rest

F. Questions From Students

III. SUMMARY (2 min)

A. Review of Main Points

1. Sebaceous Gland Disorders

2. Allergic Skin Reactions

3. Infectious Dermatitis

4. Thermal Injuries

B. Closing Statement: Dermatology problems are common and frequently infectious. The more knowledge you acquire concerning the cause, symptoms, medical treatment and nursing care of simple skin disorders the better care you will be able to give your patients.

ANNEX A

INSTRUCTIONAL AIDS

SLIDES

S 65-340-016-1	Acne Vulgaris
S 65-340-016-2	Urticaria
S 65-340-016-3	Poison Ivy
S 65-340-016-4	Impetigo
S 65-340-016-5	Cellulitis
S 65-340-016-6	Furuncle
S 65-340-016-7	Carbuncle
S 65-340-016-8	Athlete's Foot
S 65-340-016-9	Herpes Simplex
S 65-340-016-10	Warts
S 65-340-016-11	Frostbite
S 65-340-016-12	Immersion Foot

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ACADEMY OF HEALTH SCIENCES, USA IM 65-340-016
NURSING SCIENCE DIVISION 057

Simple Disorders of the Skin

The largest organ of the body is the skin or Integumentary System. It comprises approximately 15% of the total body weight. The study of diseases of the skin is called "dermatology."

There are a multitude of various disorders of the skin. Dermatologists have spent their entire lifetime studying various skin diseases and do not know everything about them. A general knowledge of the cause, symptoms and the medical treatment and nursing care of those disorders is very helpful for the clinical specialist to assist patients in either the hospital or dispensary setting.

There are twelve disorders of the skin that give a good background for the clinical specialist. They are divided into sebaceous gland disorders, allergic skin reactions, infectious dermatitis, and thermal injuries. Acne Vulgaris is a sebaceous gland disorder. Urticaria and poison ivy are allergic skin reactions. The infectious dermatitis group includes impetigo, cellulitis, furuncle, carbuncle, athlete's foot, Herpes Simplex and warts. Frostbite and immersion foot comprise the thermal injury group.

There are many different sebaceous gland disorders. One of the most common is Acne Vulgaris. It is caused when there is an increased activity or increased size of the sebaceous glands. The sebaceous glands connect to the hair follicles which are structures consisting of the hair shaft, hair root, and a surrounding tube-like wall. The opening of the hair follicle is often a weak spot in the skin defenses since bacteria may enter and cause infection. The sebaceous gland consists of a sac filled with living cells containing oil. Symptoms of Acne Vulgaris are comedoes (blackheads) on the chin, nose or forehead and papules (solid elevation or lump in the skin 5 millimeters or less in size), and small pustules (small raised area of skin filled with pus instead of clear fluid), in the same area. Good skin hygiene and a well balanced diet is the usual treatment. Ultraviolet light treatments sometimes are utilized. Emotional support is important because the person with acne vulgaris may be disturbed or feel insecure because of their appearance.

Urticaria, commonly known as hives, is an allergic skin reaction. It can be caused by many different things. Food sensitivities, drug sensitivities, inhalent allergies, infections, chemicals and sensitivities to various bites and stings are all causes of urticaria. The spontaneous development of wheals (primary lesions that are circumscribed, edematous and usually transitory elevations that vary in size,

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and increased fever are primary symptoms of urticaria. The lesions are usually pink or skin colored and usually begin on the trunk. The first medical treatment is to remove the cause if possible. If a skin irritant is causing the reaction then the skin should be washed. If a food is causing the reaction it's consumption should be ceased. Antihistamine therapy is sometimes prescribed by a physician. In certain cases epinephrine is administered. In extreme cases when the patient has violent pruritis (itching) a sedation may be ordered.

Poison ivy is also an allergic skin reaction. It is caused by either direct or indirect contact with the poison ivy, poison oak or poison sumac plants. The oils contained on the plants' leaves are an irritant to many people and cause a skin eruption. Certain areas which have been contaminated by the oil may swell and itch intensely. The treatment is to cleanse the area well and apply hot compresses of liquid aluminum acetate or the application of calamine lotion. Prevention is best provided by identification of the poison ivy plants.

Impetigo is a bacterial infection limited to the stratum corneum and epidermis. It is caused by either the Staphylococcus aureus or Beta hemolytic streptococcus bacteria, but often by a combination of both. It begins suddenly, usually on the face, arms or legs. There may be one or dozens of lesions. Scratching the impetigo causes the bacteria to get under the fingernails. Then scratching or rubbing elsewhere causes the infection to spread to other parts of the skin. Impetigo is mildly sore to the touch and itches or burns a small amount. The skin surrounding the lesions looks normal at first, then a ring of redness develops within a day or two. Impetigo may develop in a few hours as a vesicle, (small blister filled with a clear liquid 5 millimeters or less in size), a pustule, a bulla, (a large blister over five millimeters in size), as a raw glistening spot or as a crack in the skin. Within a day or so, a soft, soggy, yellow or honey-colored crust forms that is fairly easy to remove. There may be an infected fever blister, infected hang-nail, infected insect bite, cut or burn present, at the same time or elsewhere on the body which serves as the source of the bacterial infection. Impetigo heals without scarring but it may leave a reddish or brown mark which disappears in several weeks. The most important procedure in the local treatment of impetigo is to take the crust off and keep it off. It can usually be removed with soap and water. There may be some bleeding when the crust comes off but it is harmless. The crust will need to be treated five or six times the first day, usually four times the second day, two or three times the third day and should be healed

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on the fourth day. Sometimes with severe infections a systemic antibiotic is indicated. Good handwashing and cleaning of the fingernails is especially important for the control of impetigo.

Cellulitis is another of the infectious dermatoses which is caused by streptococcal bacteria or as the result of other infections. Cellulitis is a diffuse infection with the signs of inflammation involving all layers of the skin. It can form around furuncles, fungal infections or occur by itself. It is characterized by redness of the area. The redness spreads in flat planes and there is usually pus present in the center of the large red lesion. Usually there is an increased temperature. The medical treatment is rest and elevation and systemic antibiotic therapy. Careful cleaning of the area with good sterile technique is important.

A furuncle or boil is an infection of the hair follicle and tissue around it. There is redness and pain. At first there may be only a red lump but in a few days a yellow head develops on the surface. When a furuncle opens, pus, blood and a plug of dead tissue (core) come out. If the furuncle is small it heals with no visual scar. If the furuncle does not rupture it must be incised. Hot compresses will hasten the rupture. Patients with furuncles must be kept away from other patients to prevent the spread of the staphyloccal infection which is the causitive agent. A carbuncle is a group of furuncles. The temperature is usually elevated with carbuncles. They are extremely sore and painful. Hot soaks, surgical removal of the cores and pus, systemic antibiotic therapy and hospitalization may be required.

Athlete's foot is the common name given dermatitis of the feet. It is caused by a fungus infection that attacks the skin between the toes. In the United States athlete's foot is usually caused by the fungi called Trichophyton mentagrophytes. The fungus that attack human skin use the dead horny layer (stratum corneum) for food. As they grow they digest the dead skin, cause the skin to redden, blister, scale and itch. Prevention is the best treatment. The rotation of shoes and boots and changing socks frequently will aid in the prevention. The use of foot powders and antifungal creams is encouraged. Systemic medications such as griseofulvin is indicated by a physician in certain cases.

Herpes Simplex is another infectious dermatitis disorder. It is commonly called fever blister or cold sore. Herpes Simplex is caused by a virus although there is some substantiation that emotional factors may be involved. The symptoms begin with an area of skin that is tender or sore. This area will later erupt into papular lesions which soon become vesicles. The disease is extremely painful. The most common spot is along a rib although it can occur at the eye or on the lips or in the mouth. A wet dressing utilizing a solution of 10% aluminum acetate is sometimes prescribed by physicians as well as application of spirits of camphor to the area. Smallpox vaccine has been used to treat recurrent Herpes Simplex.

Warts are also one of the infectious deratoses. Warts are caused by virus. They are usually small brownish or yellowish lumps which appear either singly or in groups anywhere on the skin. The plantar wart is a very common wart which appears on the soles of the feet. The medical treatment for warts is removal. Warts can be removed by electrodesiccation (short, high frequency electric sparks), cryotherapy, application of acid, X-ray, ultrasound and the surgical removal.

Thermal injuries are injuries caused from exposure to either hot or cold environmental situations. Frostbite is a dermatology disorder caused from exposure to a cold environment which causes a part of the body to freeze stopping the blood supply. It usually affects fingers, toes, ears of the face. The affected part becomes pale and waxy with a lack of pain or feeling in the area. The part must be warmed gradually but should not be rubbed. Rest and elevation of the affected extremity and antibiotic therapy are prescribed.

Immersion foot is the swelling, wrinkling, and whiteness of the skin of the soles of the feet when the stratum corneum stays wet for 48 to 72 hours. Some of the creases in the soles become quite tender on walking. During the next 24 to 48 hours the pain becomes very severe on walking and the feet swell slightly. When the boot is removed it may be impossible for the soldier to put it back on because of the pain and swelling. The pain is greatest on the soles of the heels and the balls of the feet. The only treatment is to keep the patients's feet dry and keep the patient on bedrest. Within 24 hours the wrinkling, whiteness and sogginess disappear. The pain leaves although the thick stratum corneum begins to peel off. The soles may still be tender on walking but this tenderness slowly diminishes.

Dermatology problems are common and frequently infectious. Background knowledge concerning the cause, symptoms and medical treatment and nursing care of simple skin disorders enables the clinical specialist to administer better care to dermatology patients.

SFC D. Shelley

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCES DIVISION
ENLISTED INSTRUCTIONAL BRANCH

M 65-340-016
087

327

Simple Disorders of the Skin

Objective

Identify the causes, symptoms, medical treatment, and nursing care of acne vulgaris, urticaria, poison ivy, impetigo, cellulitis, furuncle, carbuncle, athlete's foot, Herpes Simplex, warts, frostbite, and immersion foot.

NOTES

A. Sebaceous Gland Disorders

1. Acne vulgaris

a. Causes

(1)

(2)

b. Symptoms

(1)

(2)

c. Medical treatment and nursing care

(1)

(2)

(3)

(4)

B. Allergic Skin Reactions (contact dermatitis)

1. Urticaria (Hives)

a. Causes

(1)

(2)

(3)

(4)

(5)

(6)

b. Symptoms

(1)

(2)

(3)

(4)

(5)

c. Medical treatment and nursing care

(1)

(2)

(3)

(4)

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2. Poison Ivy
   - a. Causes
     - (1)
     - (2)
   - b. Symptoms
     - (1)
     - (2)
     - (3)
   - c. Medical treatment and nursing care
     - (1)
     - (2)
       - (a)
       - (b)

C. Infectious Dermatitis

1. Impetigo
   - a. Causes
     - (1)
     - (2)

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b. Symptoms

(1)

(2)

(3)

c. Medical treatment and nursing care

(1)

(2)

(3)

2. Cellulitis

a. Causes

(1)

(2)

b. Symptoms

(1)

(2)

(3)

c. Medical treatment and nursing care

(1)

(2)

(3)

3. Furuncle

   a. Causes

      (1)

      (2)

   b. Symptoms

      (1)

      (2)

      (3)

   c. Medical treatment and nursing care

      (1)

      (2)

      (3)

      (4)

4. Carbuncle

   a. Causes

      (1)

      (2)

   b. Symptoms

      (1)

      (2)

c. Medical treatment and nursing care

(1)

(2)

(3)

(4)

(5)

5. Athlete's Foot

a. Cause

(1)

b. Symptoms

(1)

(2)

(3)

c. Medical treatment and nursing care

(1)

(2)

(3)

(4)

6. Herpes Simplex (fever blister, coldsore)

   a. Causes

      (1)

      (2)

   b. Symptoms

      (1)

      (2)

      (3)

   c. Medical treatment and nursing care

      (1)

      (2)

      (3)

      (4)

7. Warts

   a. Cause

   b. Symptoms

      (1)

      (2)

      (3)

c. Medical treatment and nursing care

(1)

(2)

(3)

(4)

(5)

(6)

D. Thermal Injuries

1. Frostbite

a. Causes

(1)

(2)

b. Symptoms

(1)

(2)

(3)

c. Medical treatment and nursing care

(1)

(2)

(3)

(4)

(5)

2. Immersion foot

a. Causes

b. Symptoms

(1)

(2)

(3)

(4)

(5)

c. Medical treatment and nursing care

(1)

(2)

Definition of Terms

PRIMARY LESIONS:

1. Patch: Large, macule.
2. Papule: Discrete solid elevations, 1cm or less.
3. Plaque: Coalesced papules.
4. Nodule: A large papule.
5. Wheal: Edematous, transitory elevation, a hive.
6. Tumor: Larger than a nodule.
7. Macule: Variable sized, non-elevated, discrete, discoloration.
8. Vesicle: Discrete, small, elevation of epidermis, containing serum; less than 1cm.
9. Bulla: Large vesicle.
10. A vesicle with many PMN's,usually white or yellowish.
11. Petechiae: Hemorrhages less than 3mm in diameter.
12. Purpura: Petechiae and ecchymoses.

SECONDARY LESIONS:

1. Scales: Lanunated masses of exfoliating epidermis.
2. Crusts: Dried scrum or blood.
3. Excoriations:
4. Fissures: Linear breaks in the skin.
5. Ulcers: Localized loss of tissues.
6. Scars:
7. Erosion: Superficial ulcer.

SFC D.Shealley

ACADEMY OF HEALTH SCIENCES, USA M 65-340-016
NURSING SCIENCES DIVISION 087
ENLISTED INSTRUCTIONAL BRANCH

Simple Disorders of the Skin

Objective

Identify the causes, symptoms, medical treatment, and nursing care of acne vulgaris, urticaria, poison ivy, impetigo, cellulitis furnuncle, carbuncle, athlete's foot, Herpes Simplex, warts, frostbite, and immersion foot.

NOTES

A Sebaceous Gland Disorders

1. Acne vulgaris

a. Causes

(1)

(2)

b. Symptoms

(1)

(2)

c. Medical treatment and nursing care

(1)

(2)

(3)

(4)

B. Allergic Skin Reactions (contact dermatitis)

1. Urticaria (Hives)

a. Causes

(1)

(2)

(3)

(4)

(5)

(6)

b. Symptoms

(1)

(2)

(3)

(4)

(5)

c. Medical treatment and nursing care

(1)
(2)
(3)
(4)

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2. Poison Ivy

   a. Causes

      (1)

      (2)

   b. Symptoms

      (1)

      (2)

      (3)

   c. Medical treatment and nursing care

      (1)

      (2)

         (a)

         (b)

C. Infectious Dermatitis

1. Impetigo

   a. Causes

      (1)

      (2)

b. Symptoms

(1)

(2)

(3)

c. Medical treatment and nursing care

(1)

(2)

(3)

2. Cellulitis

a. Causes

(1)

(2)

b. Symptoms

(1)

(2)

(3)

c. Medical treatment and nursing care

(1)

(2)

(3)

3. Furuncle
   a. Causes
      (1)

      (2)

   b. Symptoms
      (1)

      (2)

      (3)

   c. Medical treatment and nursing care
      (1)

      (2)

      (3)

      (4)

4. Carbuncle
   a. Causes
      (1)

      (2)

   b. Symptoms
      (1)

      (2)

c. Medical treatment and nursing care

(1)

(2)

(3)

(4)

(5)

5. Athlete's Foot

a. Cause

(1)

b. Symptoms

(1)

(2)

(3)

c. Medical treatment and nursing care

(1)

(2)

(3)

(4)

6. Herpes Simplex (fever blister, coldsore)

   a. Causes

      (1)

      (2)

   b. Symptoms

      (1)

      (2)

      (3)

   c. Medical treatment and nursing care

      (1)

      (2)

      (3)

      (4)

7. Warts

   a. Cause

   b. Symptoms

      (1)

      (2)

      (3)

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c. Medical treatment and nursing care

(1)

(2)

(3)

(4)

(5)

(6)

D. Thermal Injuries

1. Frostbite

a. Causes

(1)

(2)

b. Symptoms

(1)

(2)

(3)

c. Medical treatment and nursing care

(1)

(2)

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(3)

(4)

(5)

2. Immersion foot

   a. Cause

   b. Symptoms

      (1)

      (2)

      (3)

      (4)

      (5)

   c. Medical treatment and nursing care

      (1)

      (2)

Definition of Terms

PRIMARY LESIONS:

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9. Bulla: Large vesicle.
10. Pustule: A vesicle with many PMN's, usually white or yellowish.
11. Petechiae: Hemorrhages less than 3mm in diameter.
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3. Excoriations:
4. Fissures: Linear breaks in the skin.
5. Ulcers: Localized loss of tissue.
6. Scars:
7. Erosion: Superficial ulcer

CPT C.T. Splichal

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

LP 65 340 017

347

Common Nursing and Diagnostic Procedures in Digestive Disorders (6Hours)

COURSES PRESENTED TO: 300-91C20 Clinical Specialist (Primary Technical)

PLACE: Classroom, PE Laboratory

REFERENCES:

TM 8-230

Brunner, Lillian S. & Suddarth, Doris S. (1). The Lippincott Manual of Nursing Practice. Philadelphia: J.B. Lippincott Co., 1974, pp 531-539.

Lewis, Luverne Wolff. Fundamental Skills in Patient Care. Philadelphia: J.B. Lippincott Co., 1976, pp 278-285, 380-383, 395, 398, 414.

Sutton, Audrey L. Bedside Nursing Techniques in Medicine and Surgery. 2d ed. Philadelphia: W.B. Saunders Co., 1969, pp 142-165.

Wood, Lucile A. (ed). Nursing Skills for Allied Health Sciences. Vol I-III. Philadelphia: W.B. Saunders Co., 325.

STUDY ASSIGNMENT: TM 8-230, 5-111 to 5-113

STUDENT UNIFORM AND EQUIPMENT: Not applicable

TOOLS, EQUIPMENT, AND MATERIALS: M 65-340-017-1 (1st hour beginning of class) M65-340-017-2 (2nd hour beginning of class)

PERSONNEL: One (1) primary 66 H ANC, (12) secondary 91C30

INSTRUCTIONAL AIDS: Overhead projector, transparencies (5) T 65-340-017-1 through 5, manikin, Gomco, NG tube (Leving 18 Fr), syringe 60cc bulb, lubricating jelly (water soluble) tape (hypoallergenic), stethoscope, emesis basis, safety pin, enema bag, treatment sheet (chucks), clamp, connector (straight), sheet, I.V. stand, bed pan, colostomy belt, colostomy sheath, water, (See Annex B).

TROOP REQUIREMENTS: Not applicable

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: L (1st hour), D (2nd hour), PE (3rd-6th hours).

FIRST HOUR

I. INTRODUCTION (3 min)

A. Opening Statement: What are digestive disorders? Any problem or disease that may cause the body to be unable to digest and absorb food. These disorders can be related to problems within the gastrointestinal tract or other organs like the gall bladder or pancreas. During this hour of instruction we will discuss some of the nursing care procedures and diagnostic tests necessary for the care of the patient with digestive disorders.

B. Objectives:

1. Demonstrate insertion of a nasogastric tube
2. Given a patient with nasogastric tube properly placed, administer a tube feeding (gavage).
3. Demonstrate irrigation of a nasogastric tube, connection to a gastric suction (Gomco or Emerson) and care of a patient with a nasogastric tube.
4. Identify the steps in preparing the patient for the following diagnostic procedures: UGI, BE, GB, and IVP.
5. Define a cleansing enema and a retention enema. Demonstrate the steps in sequence in administration of a cleansing enema and a retention enema.
6. Define a colostomy. Demonstrate an irrigation of a colostomy.

C. Class Procedure and Lesson Tie-In

This hour of lecture is the first of a six hour block of instruction, demonstration, and practical exercise involving disorders of the digestive system.

II. EXPLANATION (40 min)

NOTE: Presentation supported by transparencies. Use T 65-340-017-1 and T 65-340-017-3.

A. Nasogastric Tube

1. Medical need
   a. Intestinal obstruction
   b. Pancreatitis
   c. Surgery of abdomen or bowel
2. Nurtritional need
   a. Medicines
   b. Fluids
   c. Foods (gavage)

NOTE: Use T 65-340-017-2 and T 65-340-017-4

B. Diagnostic Procedures

1. UPI (upper gastrointestinal)
   a. Definition: X-ray of a gastrointestinal tract; esophagus, stomach, and sometimes small intestine, usually orally administered barium to radiographically visualize abnormalities.
   b. Preparation
      (1) Patient teaching
      (2) Nothing by mouth (NPO)
2. BE (Barium enema)
   a. Definition: X-ray of colon with barium introduced into the colon to visualize abnormalities.
   b. Preparation
      (1) Patient teaching
      (2) Diet
      (3) Purgatives
      (4) NPO

3. GB (Gall Bladder)

   a. Definition: X-ray of the gall bladder using a dye, iodine base, which is orally administered and collects in the gall bladder allowing visualization of stones.

QUESTION: When a test is performed with a dye, like iodine base dye. What needs to be determined before the dye is given or administered?

ANSWER: If the patient is allergic to iodine.

   b. Preparation

      (1) Patient teaching

      (2) Diet: fat free

      (3) Administration of dye: orally

      (4) NPO

4. IVP (Intravenous pylogram)

   a. Definition: X-ray of the kidney and urinary tract including bladder and ureters using radiopaque dye given intravenously to determine function.

   b. Preparation

      (1) Patient teaching

      (2) Purgatives

      (3) NPO

NOTE: Use T 65-340-017-4

C. Enemas

1. Cleansing: fluid injected into the rectum to cleanse the bowel of stool.

2. Retention: injection of oil into the rectum to lubricate the rectum and soften feces, thus, facilitating defecation.

QUESTION: What are some of the dangers of giving enemas?

ANSWER: If too hot, it may injure the intestinal wall, cause inflammation or mechanical damage. This depends upon the solution used.

D. Colostomy: surgical creation of an opening between the colon and the surface of the body.

E. Questions from students.

III. SUMMARY (2 minutes)

A. Review of Main Points

1. Insertion of a nasogastric tube, tube feeding, irrigation, and care of the patient with a nasogastric tube.
2. Diagnostic procedures
3. Enemas
4. Colostomy

B. Today we have discussed some of the proceudres involved in the care of the patient with digestive disorders. These procedures may help the physician make a diagnosis or help the patient to regain his normal state of health.

SECOND HOUR

I. INTRODUCTION (3 min.)

A. Opening Statement: Now that we have learned to identify the need for nasogastric suction, we will learn how to insert a nasogastric tube, administer a feeding (gavage), irrigate the tube and connect it to suction. In addition, there are other procedures we will learn in this hour; administration of enemas and irrigating a colostomy.

B. Objectives

1. Demonstrate insertion of a nasogastric tube
2. Given a patient with a nasogastric tube properly placed, administer a tube feeding gavage.

3. Demonstrate irrigation of a nasogastric tube, connection to a gastric suction (Gomco or Emerson) and care of a patient with a nasogastric tube.

4. Demonstrate the steps in sequence in administration of a cleansing enema and a retention enema.

5. Demonstrate an irrigation of a colostomy (Phase II)

C. Class Procedure and Lesson Tie-in

This is the second hour of instruction on digestive disorders with demonstration of the various procedures. Following these demonstrations there will be four hours of practical exercise.

II. EXPLANATION/DEMONSTRATION (40 min)

A. Steps in Procedures

1. Insertion of a nasogastric tube

    a. Check physician's orders

    b. Wash hands

    c. Assemble equipment

    d. Identify and explain procedure to patient

    e. Screen patient

    f. Determine sign that may be used if gagging or discomfort occurs, determine if patient has any knowledge of a nasal or septal defect.

    g. Position patient in high fowlers

    h. Remove dentures

    i. Measure distance tube is to be passed to ensure passage into stomach

    j. Place emesis basin below chin or within easy reach of patient

    k. Lubricate tube 6-8 inches with water-soluble jelly (K-Y jelly)

QUESTION: Why do we use a lubricant or jelly that is water soluble?

ANSWER: Because it will dissolve in body secretions, other bases would not and may cause problems if it is aspirated.

l. Have patient hyperextend neck

m. Lift head insert tube into nostril aiming down and back

NOTE: When tube reaches pharynx the patient may gag, allow to rest a few moments.

n. Head to normal position, offer patient sip of water through straw and advance tube as he swallows.

NOTE: If there are signs of distress, gasping, coughing, cyanesis, remove tube.

o. Check if tube is in the stomach

(1) Aspirate contents of stomach with syringe

(2) Place end of tube in a glass of water

(3) Place stethoscope over epigastriam, inject air with syringe into tube, listen for entrance into stomach.

p. Clamp tubing

q. Secure tube to nose, prevent disturbance of vision or nasal mucosal irritation

r. Secure to patient's clothing

s. Record procedure in Nursing Notes

4. Tube feeding (Gavage)

a. Check physician's orders

b. Wash hands

c. Allow formula to warm to room temperature

d. Assemble equipment

e. Screen patient

f. Identify patient and instruct on procedure

g. Position patient: high fowlers

h. Check nasogastric tube for positioning and patency

i. Attach syringe

j. Pour 1 oz. of water into syringe to clear tube

k. Pour warmed formula into syringe, regulate flow by raising or lowering syringe

l. Feed patient slowly, keep level of formula in syringe no lower than the neck of syringe

QUESTION: Why do we want to keep the formula up to the neck of the syringe?

ANSWER: Because if the formula clears the syringe and more formula is added, amounts of air will be forced into patient's stomach causing him to be distended.

m. Pour 1-2 oz. of water into syringe to clear tube

n. Clamp tubing, keep patient in high fowlers or semi-fowlers for 45 minutes to 1 hour after feeding.

QUESTION: Why do we keep the patient elevated after feeding is completed?

ANSWER: To prevent regurgitation and possible aspiration

o. Record on I&O sheet, amount and solution used, record same information in Nursing Notes.

3. Nasogastric Irrigation

a. Check physician's orders

b. Wash hands

c. Assemble equipment

d. Identify patient and instruct on procedure

e. Screen patient

f. Pour solution into sponge bowl, 100-150cc

g. Clamp drainage tube

h. If single connector is used, clamp Levine tube and remove from connector. If Y-connector or sump tube is used, do not disconnect.

i. Fill syringe with 30cc solution, insert syringe into tip of tube or sump tube or Y-connector extension.

j. Gently squeeze bulb to inject solution

NOTE: Bulb syringe is recommended because it does not exert high pressure.

k. Free flow of fluid indicates tube is open. Do not use force if fluid does not pass. Summon help.

l. Clamp tube and remove syringe

m. Reconnect to drainage if disconnected

n. Release clamps and observe for fluid flow

o. Record on I&O sheet, amount and type of irrigant used, record also in Nursing Notes.

NOTE: Irrigation solution will be suctioned off as any fluid in stomach will when Gomco or Emerson is functioning.

4. Care of the patient with a nasogastric tube

a. Mouth care

(1) Use lemon glycerine swabs to keep oral mucosa moist

(2) Use lemon glycerine swabs to keep tongue and lips moist

(3) Anesthetic spray to back of throat to decrease sensation (chloraseptic spray; 6 sprays every six hours or as ordered by physician)

b. Nasal care

(1) Check position of tube; prevent irritation at point of entry into nares, change tape and position of tube (do not advance or pull out)

(2) Apply water soluble lubricant to nares

5. Connection of nasogastric tube to electric drainage pump (Gomco)

a. Check physician's orders

b. Wash hands

c. Assemble equipment, check for any hazzard

d. Identify patient and explain procedure

e. Screen patient

f. Set switch control to low or high as ordered by physician

g. Plug in the cord to wall outlet

h. Turn switch on

i. Test for suction by inserting tip of tube from Gomco into water

NOTE: There will be a delay in suction when unit is first connected.

j. Connect nasogastric tube to connector, then to tubing from Gomco

k. Record any fluid in container on I&O sheet, record in Nursing Notes

6. Cleansing enema

a. Check physician's orders

b. Wash hands

c. Assemble equipment

d. Identify patient and instruct about procedure

e. Screen patient

f. Check temperature of solution (105°F), place approximately 1000cc in enema bag.

g. Expel air from rectal tube, clamp when solution begins to flow through end of tube.

h. Lubricate end of rectal tube with water soluble jelly (K-Y jelly), cover with tissue.

i. Take equipment and bedpan (if bed patient) to bedside

j. Position patient: left lateral (Sims) position with left leg flexed at knee

k. Hang enema bag 12-18 inches above patient

l. Place treatment sheet under patient

m. Remove bed clothing keeping patient draped to prevent exposure

n. With left hand separate buttock to expose anus

o. Insert tube into anus approximately 4 inches, hold in place, release clamp, allow fluid to flow slowly.

p. Instruct patient to breathe slowly through mouth

NOTE: If patient complains of cramping stop fluid and lower enema bag, continue after a few seconds.

q. When solution is infused, clamp tube and remove, cover soiled end of tube.

r. Assist onto bedpan or to bathroom

s. Clean equipment

t. Observe and record results, color, consistency, amount, in Nursing Notes.

7. Retention enema

   a. Check physician's orders

   b. Wash hands

   c. Assemble equipment

   d. Identify patient and explain procedure

NOTE: Patient will remain on left side for approximately 1 hour after administration of enema.

   e. Screen patient

   f. Check temperature of oil against wrist (warm but not hot)

   g. Lubricate end of tube with water soluble jelly (K-Y jelly)

   h. Position patient: Left lateral (Sims) position with left leg flexed at knee

   i. Place treatment sheet under patient

   j. Remove bed clothing, keeping patient draped to prevent exposure

   k. With left hand separate buttocks to expose anus

   l. Insert tube into anus approximately 4 inches

   m. Give oil very slowly

   n. Withdraw tube and cover soiled end

   o. Encourage patient to breathe slowly, apply gentle pressure to anus with ABD pad, may leave pad against buttock if requested to do so.

   p. Position patient for comfort, keep on left side, instruct patient to stay in that position for approximately 1 hour.

   q. Record in Nursing Notes; time, type, and amount of oil given

   r. Clean equipment if not disposable

   s. Check patient in 1 hour to see amount of oil expelled and record in Nursing Notes.

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8. Irrigation of a colostomy
    a. Check physician's orders
    b. Wash hands
    c. Assemble equipment
    d. Identify patient and explain procedure
    e. Screen patient or assist to bathroom
    f. Apply irrigating sheath to stoma
    g. Check irrigating fluid temperature (105°F), place 1000-2000cc of fluid in enema bag
    h. Hang enema bag 12-18 inches above stoma, expel air from tube
    i. Insert tube into stoma 4-6 inches
    j. Allow slow entry of fluid into colon, approximately 5-10 minutes, volume will vary
    k. Remove catheter and allow fecal material to flow into sheath approximately 15-20 minutes.
    l. Clean stoma with mild soap and water, pat dry, apply karaya ring or powder and then sealable bag.
    m. Clean equipment
    n. Record procedure and results in Nursing Notes

B. Questions from Students

III. SUMMARY (2 minutes)

A. Review of Main Points

1. Inserting a nasogastric tube
2. Administering a feeding or gavage, irrigating a nasogastric tube and connecting it to suction
3. Defined enemas--both cleansing and retention and demonstrated how they are administered.

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4. Defined colostomy and demonstrated how a colostomy is irrigated.

5. Preparation for diagnostic procedures

B. Closing Statement: In this block of lecture we have demonstrated some of the procedures involved in the administration of nursing care to patients who have problems with the gastrointestinal tract. These procedures, even though uncomfortable at the time, may be essential for the patient's well being.

THIRD through SIXTH HOURS

I. INTRODUCTION (4 min)

A. Opening Statement: We have seen the various procedures demonstrated, now we will apply this knowledge in the actual performance of these procedures.

B. Objectives

1. Demonstrate insertion of a nasogastric tube

2. Given a patient with a nasogastric tube properly placed, administer a tube feeding (gavage)

3. Demonstrate irrigation of a nasogastric tube, connection to a gastric suction (Gomco or Emerson) and care of a patient with a nasogastric tube.

4. Demonstrate the steps in sequence in administration of a cleansing enema and a retention enema

5. Demonstrate an irrigation of a colostomy

C. Class Procedure and Lesson Tie-IN

Relates to the previous hours of lecture and demonstration regarding procedures involving the digestive system.

II. APPLICATION (166 min)

A. Seating Arrangement of Students

1. Students will be divided into groups of 24 each

NOTE: See Annex D

B. Directions to Students

ANNEX A
INSTRUCTIONAL AIDS

Transparencies

T 65-340-017-1	Placement of NG tube
T 65-340-017-2	Areas diagnostic tests are evaluating
T 65-340-017-3	Outline of lesson with definitions
T 65-340-017-4	Outline of lesson with definitions
T 65-340-017-5	Location of colostomies

LP 65-340-017
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ANNEX B
INSTRUCTIONAL AIDS

Equipment

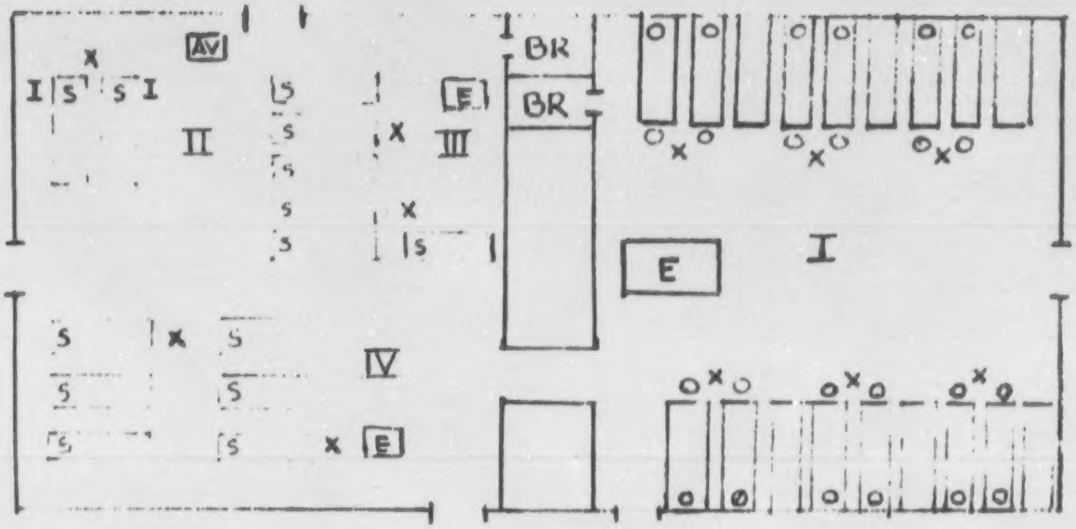
Manikins - 4 Patty patient
2 CPR

Gomco - 2

Nasogastric tubes, 18 Fr Levin - 101

Syringe, 60cc bulb, cath tip -	51
30cc bulb, cath tip -	51
Tape, hypoallergenic, half inch	10 rolls
Lubricant, water soluble	6 tubes
Sponge basins	23
Emesis basins	101
Tissue	13 boxes
Enema bags	5
Colostomy irrigating sleeves	7
Colostomy belts	7
I.V. poles	12
Clamps	12
Safety Pins	12
Stethoscope	13
Bed pans	4
Chucks	100
Straight connector	2
Nursing Notes	100
Bedside Commode	3

ANNEX C
INSTRUCTIONAL AIDS


AV
X
I
S
II
III
IV
E
BR
BR
O

X	Instructors
O	Students
S	Manikins
AV	Audio visual
E	Equipment table
I	Gomco

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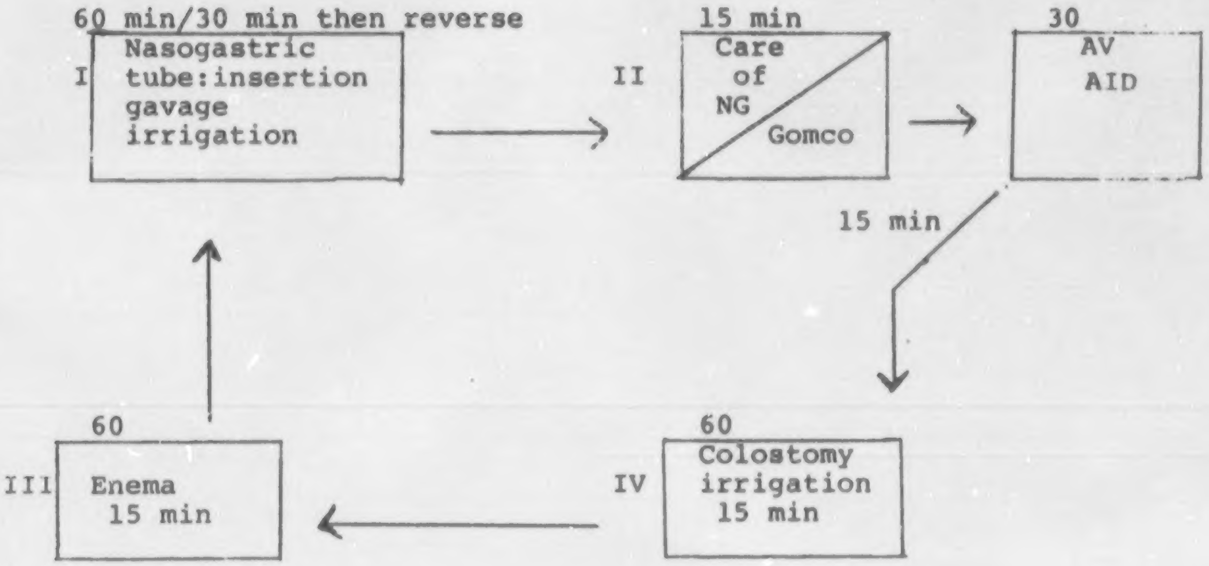
Flow Chart


60 min/30 min then reverse
I
Nasogastric tube:insertion gavage irrigation
15 min
II
Care of NG
Gomco
30
AV AID
15 min
60
IV
Colostomy irrigation 15 min
60
III
Enema 15 min

If one group of students completes a station prior to expiration of alloted time, may take break.

375

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ANNEX E
INSTRUCTIONAL AIDS

Audio Visual

TF 8-3229	Gastric Intubation. 25 minutes. For use at PE station

SP5 P.J.Garrett

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

IM 65-340-017
057

Common Nursing and Diagnostic Procedures in Digestive Disorders

What are digestive disorders? Any problem or disease that may cause the body to be unable to digest and absorb food. These disorders are related to problems within the gastrointestinal tract or other organs like the gall bladder or pancreas. During this hour of instruction we will discuss some of the nursing care procedures and diagnostic tests necessary for the care of the patient with digestive disorders.

The first topic will be the nasogastric tube. An NG (Nasogastric) tube is used for several reasons. The medical need may exist. The patient could have an intestinal obstruction or pancreatitis. Surgery of the abdomen or bowel is another example of a medical need. Nutritional needs of the patient are another factor to consider. Medicines, fluids and even food may be instilled through the tube to benefit the patient. Tube feeding a patient is called gavage.

Several diagnostic procedures are at the disposal of the nursing care team to determine the specific type of disorder. The UGI (Upper Gastrointestinal) is an x-ray of the gastrointestinal tract, esophagus, stomach and sometimes small intestines. Barium is administered orally to radiographically visualize abnormalities. Preparation for this procedure includes, patient teaching, an explanation of the procedure to the patient. The patient is kept NPO (nothing by mouth) prior to this procedure.

The barium enema is another common procedure. A barium enema is an x-ray of the colon with barium introduced to visualize abnormalities. The preparation is very similar to the UGI. Patient teaching would be appropriate for all procedures. The patient is kept NPO and given purgatives or laxatives to cleanse the bowel.

The next procedure is the GB (Gall Bladder Series). This is an x-ray of the gall bladder using a dye, iodine base, which is administered orally and collects in the gall bladder allowing for visualization of stones. When a test is performed with a dye, a determination of patient allergies has to be made. You must always check the patient's allergies before administering the dye. The preparation is, once again, headed by patient teaching. Diet changes are required, a fat-free diet is desirable to keep the gall bladder dormant. The dye is given orally and the patient is kept NPO.

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The IVP (intravenous pyelogram) is our last diagnostic procedure. This is an x-ray of the kidney, urinary tract, bladder and ureters using radiopaque dye given intravenously to determine function. The preparation of the patient includes patient teaching. Purgatives or laxatives are administered and the patient is NPO.

Our next topic is enemas. There are two major types of enemas, the cleansing and retention. The cleansing consists of fluid injected into the rectum to cleanse the bowel of stool. The retention consists of oil being injected into the rectum to lubricate the rectum and soften feces, thus, facilitating defecation. The cleansing enema actually cleans out the patient while the retention helps the individual defecate.

The definition of a colostomy is our last topic. A colostomy is a surgical creation of an opening between the colon and the surface of the body. A colostomy is always located in the large intestines although an ostomy may be in the small intestines.

Today we have discussed some of the procedures involved in the care of the patient with digestive disorders. These procedures may assist the physician in making a diagnosis or help the patient to regain his normal state of health.

CPT C.Splichal

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

M 65-340-017-1
057

Common Nursing and Diagnostic Procedures in Digestive Disorders

Objectives:

1. Demonstrate insertion of a nasogastric tube
2. Given a patient with a nasogastric tube properly placed, administer a tube feeding (gavage)
3. Demonstrate irrigation of a nasogastric (Gomco or Emerson) and care of a patient with a nasogastric tube.
4. Identify the steps in preparing diagnostic procedures: UGI, BE, GB, and IVP.
5. Define a cleansing enema and a retention enema. Demonstrate the steps in sequence in administration of a cleansing enema and a retention enema.
6. Define a colostomy. Demonstrate an irrigation of a colostomy.

NOTES

A. Nasogastric Tube

1. Medical need

a.

b.

c.

2. Nutritional need

a.

b.

c.

B. Diagnostic Procedures

1. UGI

a. Definition:

b. Preparation

(1)

(2)

2. BE

a. Definition:

b. Preparation

(1)

(2)

(3)

(4)

3. GB

a. Definition:

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b. Preparation

(1)

(2)

(3)

(4)

4. IVP

a. Definition:

b. Preparation

(1)

(2)

(3)

C. Enemas

1. Cleansing:

2. Retention:

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D. Colostomy:

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CPT C.T. Splichal
M 65-340-017-2
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Common Nursing and Diagnostic Procedures in Digestive Disorders

Objectives

1. Demonstrate insertion of a nasogastric tube.
2. Given a patient with a nasogastric tube properly placed. administer a tube feeding (gavage).
3. Demonstrate irrigation of a nasogastric tube, connection to a gastric suction (Gomco or Emerson) and care of a patient with a nasogastric tube.
4. Demonstrate the steps in sequence in administration of a cleansing enema and a retention enema.

*5. Demonstrate an irrigation of a colostomy (Phase II).

NOTES

A. Steps in Procedures

1. Insertion of a nasogastric tube
   - a. Check physician's orders
   - b. Wash hands
   - c. Assemble equipment
   - d. Identify and explain procedure to patient
   - e. Screen patient
   - f. Determine sign that may be used if gagging or discomfort occurs, determine if patient has any knowledge of a nasal or septal defect.
   - g. Position patient in high fowlers
   - h. Remove dentures
   - i. Measure distance tube is to be passed, to ensure passage into stomach
   - j. Place emesis basin below chin or within easy reach of patient

* Terminal Objective

- k. Lubricate tube 6-8 inches with water soluble jelly (K-Y jelly)
- l. Have patient hyperextend neck
- m. Lift head,insert tube into nostril aiming down and back.
- n. Head to normal position, offer patient sips of water through straw and advance tube as he swallows.
- o. Check if tube is in the stomach
  - (1) Aspirate contents of stomach with syringe
  - (2) Place end of tube in a glass of water
  - (3) Place stethoscope over epigastriom, inject air with syringe into tube, listen for entrance into stomach.
- p. Clamp tubing
- q. Secure tube to nose, prevent disturbance of vision or nasal mucosal irritation
- r. Secure to patient's clothing
- s. Record procedure in Nursing Notes

2. Tube feeding (Gavage)
   - a. Check physician's orders
   - b. Wash hands
   - c. Allow formula to warm to room temperature
   - d. Assemble equipment
   - e. Screen patient
   - f. Identify patient and instruct on procedure
   - g. Position patient: high fowlers
   - h. Check nasogastric tube for positioning and patency
   - i. Attach syringe

0

j. Pour 1 oz. of water into syringe to clear tube

k. Pour warmed formula into syringe, regulate flow by raising or lowering syringe

l. Feed patient slowly, keep level of formula in syringe no lower than the neck of syringe

m. Pour 1-2 oz. of water into syringe to clear tube

n. Clamp tubing, keep patient in high fowlers or semi-fowlers for 45 minutes to 1 hour after feeding

o. Record on I&O sheet, amount and solution used, record same information in Nursing Notes

3. Nasogastric Irrigation

   a. Check physician's orders

   b. Wash hands

   c. Assemble equipment

   d. Identify patient and instruct on procedure

   e. Screen patient

   f. Pour solution into sponge bowl, 100-150cc

   g. Clamp drainage tube

   h. If single connector is used, clamp Levine tube and remove from connector. If Y connector or sump tube is used, do not disconnect.

   i. Fill syringe with 30cc solution, insert syringe into tip of tube or sump tube or Y connector extension.

   j. Gently squeeze bulb to inject solution

   k. Free flow of fluid indicates tube is open. Do not use force if fluid does not pass. Summon help.

   l. Clamp tube and remove syringe

   m. Reconnect to drainage if disconnected

   n. Release clamps and observe for fluid flow

   o. Record on I&O sheet, amount and type of irrigant used, record also in Nursing Notes

4. Care of the patient with a nasogastric tube

   a. Mouth care

      (1) Use lemon glycerine swabs to keep oral mucosa moist

      (2) Use lemon glycerine swabs to keep tongue and lips moist

      (3) Anethetic spray to back of throat to decrease sensation (chloraseptic spray: 6 sprays every six hours or as ordered by physician)

   b. Nasal care

      (1) Check position of tube; prevent irritation at point of entry into nares, change tape and position of tube (do not advance or pull out)

      (2) Apply water soluble lubricant to nares

5. Connection of nasogastric tube to electric drainage pump (Gomco)

   a. Check physician's orders

   b. Wash hands

   c. Assemble equipment, check for any hazards

   d. Identify patient and explain procedure

   e. Screen patient

   f. Set switch control to low or high as ordered by physician

   g. Plug in the cord to wall outlet

   h. Turn switch on

   i. Test for suction by inserting tip of tube from Gomco into water

j. Connect nasogastric tube to connector, then to tubing from Gomco

k. Record any fluid in container on I&O sheet, record in Nursing Notes

6. Cleansing enema

   a. Check physician's orders

   b. Wash hands

   c. Assemble equipment

   d. Identify patient and instruct about procedure

   e. Screen patient

   f. Check temperature of solution (105°F), place approximately 1000cc in enema bag

   g. Expel air from rectal tube, clamp when solution begins to flow through end of tube

   h. Lubricate end of rectal tube with water soluble jelly (K-Y jelly), cover with tissue

   i. Take equipment and bedpan (if bed patient) to bedside

   j. Position patient: left lateral (Sims) position with left leg flexed at knee

   k. Hang enema bag 12-18 inches above patient

   l. Place treatment sheet under patient

   m. Remove bed clothing keeping patient draped to prevent exposure

   n. With left hand separate buttock to expose anus

   o. Insert tube into anus approximately 4 inches, hold in place, release clamp, allow fluid to flow slowly

   p. Instruct patient to breathe slowly through mouth

q. When solution is infused, clamp tube and remove, cover soiled end of tube

r. Assist onto bedpan or to bathroom

s. Clean equipment

t. Observe and record results, color, consistency, amount, in Nursing notes

7. Retention enema

a. Check physician's orders

b. Wash hands

c. assemble equipment

d. Identify patient and explain procedure

e. Screen patient

f. Check temperature of oil against wrist (warm but not hot)

g. Lubricate end of tube with water soluble jelly (K-Y jelly)

h. Position patient: left lateral (Sims) position with left leg flexed at knee

i. Place treatment sheet under patient

j. Remove bed clothing, keeping patient draped to prevent exposure

k. With left hand separate buttocks to expose anus

l. Insert tube into anus approximately 4 inches

m. Give oil very slowly

n. Withdraw tube and cover soiled end

o. Encourage patient to breath slowly, apply gentle pressure to anus with ABD pad, may leave pad against buttock if requested to do so

p. Position patient for comfort, keep on left side, instruct patient to stay in that position for approximately 1 hour.

q. Record in Nursing Notes; time, type, and amount of oil given

r. Clean equipment if not disposable

s. Check patient in 1 hour to see amount of oil expelled and record in Nursing Notes

8. Irrigation of a colostomy

   a. Check physician's orders

   b. Wash hands

   c. Assemble equipment

   d. Identify patient and explain procedure

   e. Screen patient or assist to bathroom

   f. Apply irrigating sheath to stoma

   g. Check irrigating fluid temperature (105°F), place 1000cc-2000cc of fluid in enema bag

   h. Hang enema bag 12-18 inches above stoma, expel air from tube

   i. Insert tube into stoma 4-6 inches

   j. Allow slow entry of fluid into colon, approximately 5-10 minutes, volume will vary.

   k. Remove catheter and allow fecal material to flow into sheath approximately 15-20 minutes

   l. Clean stoma with mild soap and water, pat dry, apply karaya ring or powder and then sealable bag

   m. Clean equipment

   n. Record procedure and results in Nursing Notes

SP6 Banks
LP 65-340-018
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Nursing Procedures for Respiratory Conditions (3 Hours)

COURSES PRESENTED TO: 300-91C20 Clinical Specialist (Primary Technical)

PLACE: Classroom, PE area

REFERENCES:

TM 8-230, Chap 5, pp 5-92 - 5-104, 5-109 - 5-110; chap 10, pp 10-32 - 10-35.

Brunner, Lillian S. & Suddarth, Doris S. (1). The Lippincott Manual of Nursing Practice. Philadelphia: J.B. Lippincott Co., 1974, pp 91, 158-164, 617-618, 1140-1145.

Sutton, Audrey L. Bedside Nursing Techniques in Medicine and Surgery. 2d ed. Philadelphia: W.B. Saunders Co.,1969, pp 218-219.

STUDY ASSIGNMENT: Before class, read: TM 8-230, chap 5, pp 5-92 thru 5-104, 5-109 thru 5-110; chap 10, pp 10-32 thru 10-35.

STUDENT UNIFORM AND EQUIPMENT: Bring to class (3rd hour) M 65-340-018-

TOOLS, EQUIPMENT, AND MATERIALS: M 65-340-018-1 thru 5

PERSONNEL: One (1) primary instructor, Sixteen (16) secondary instructors (Nursing Science Division)

INSTRUCTIONAL AIDS: Transparencies (7) T 65-340-018-1 thru 7 (See Annex A),overhead projector, viewing screen, equipment (See Annex B), PA system with lapel mike.

TROOP REQUIREMENTS: Not applicable

TRANSPORATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: Lecture (1st hour), Demonstration (2nd hour), Practical Exercise (3rd hour)

FIRST HOUR

I. INTRODUCTION (2 min)

A. Opening Statement: The sole function of the respiratory tract is the exchange of oxygen and carbon dioxide. The entire body and all of it's systems depend on oxygen.

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Any abnormality involving the respiratory tract is a threat to every other body organ. Deficiencies in the normal respiratory process can cause disease and/or death. It will be your responsibility to give treatments and report signs and symptoms of any changes in the patient's condition. If you fail to recognize respiratory distress, or are unable to give prescribed treatments, the patient may become seriously ill or die.

B. Objectives:

1. Given a list of diseases and their definitions, select the correct definition of allergic rhinitis, bronchial asthma, pneumonia and bronchitis.

2. List the three symptoms of an impending bronchial asthma attack.

3. Given a respiratory condition discussed in class, state a cause, two signs and symptoms, and three treatments for that disease.

*4. Given a patient, and after practice, perform care for the patient with bronchial asthma to include: positioning, breathing exercises, observation for signs of dehydration and measures to decrease anxiety.

*5. Given a patient, and after practice, perform care for the patient with pneumonia or bronchitis to include: positioning, observation for cyanosis, observation of mental status and measures to decrease anxiety.

C. Class Procedure and Lesson Tie-in:

This is the first of three blocks of instruction on nursing procedures for respiratory conditions. The next hour will be a demonstration, followed by one hour of practical exercise.

NOTE: Inform students that not all respiratory conditions can be discussed in one hour -- nor can the conditions to be discussed,be covered to great extent.

*Terminal objective

II. EXPLANATION (42 min)

A. Definition:

QUESTION: What is the respiratory tract?

ANSWER: The lungs and the respiratory passages, to include nasal cavities, pharynx, mouth, trachea, bronchi, bronchioles, and alveoli.

NOTE: Draw students attention to M 65-340-018-1, Display T 65-340-018-1

B. Respiratory Conditions

NOTE: Display T 65-340-018-2

1. Allergic rhinitis (Hay Fever)

An inflammation of the mucous membranes of the nose.

a. Cause

Induced by airborne pollens

b. Signs and symptoms

(1) Mucous membranes of the nose become swollen and

(2) Itch, burn, and secrete a thin discharge

(3) Violent sneezing

(4) Eyes become red, burn, and lacrimate

c. Treatment

(1) Nasal sprays

(2) Eyewashes

(3) Antihistamines

(4) Allergy clinic

NOTE: Display T 65-340-018-3

2. Bronchitis

Acute inflammation of the mucous membranes of the trachea and the bronchial tree of the respiratory tract.

a. Causes

(1) Complication of URI

(2) Inhalation of physical or chemical irritants

b. Signs and symptoms

(1) Dry irritating cough

(2) Sternal soreness

c. Treatment

(1) Orthopnic or semi-orthopnic position

(2) Rest

QUESTION: Why provide for rest?

ANSWER: Overexertion adds additional stress to the respiratory system.

(3) Decrease anxiety

(4) Postural drainage

(5) Breathing exercises

(6) Observe for cyanosis

(7) Observe mental status

(8) Oxygen therapy as ordered

NOTE: Display T 65-340-018-4

3. Pneumonia

Partial solidification of the lung, due to the filling of the alveoli with an inflammatory exudate

a. Causes

(1) Complication of URI or bronchitis

(2) Aspiration

(3) Hypostasis

b. Signs and symptoms

(1) Pain in chest on breathing

(2) Short, rapid respirations

(3) Short, painful cough

(4) Bloody or rusty colored sputum

(5) Changed mental status

c. Treatment

(1) Orthopnic or semi-orthopnic position

(2) Rest

(3) Decrease anxiety

(4) Isolation if required

(5) Postural drainage

(6) Breathing exercises

(7) Observe for cyanosis

(8) Observe mental status

(9) Oxygen therapy if ordered

NOTE: Display T 65-340-018-5

4. Bronchial asthma

A form of paroxysmal dyspnea, predominantly expiratory in type

a. Causes

(1) Hereditary

(2) Pulmonary infection

- (3) Hay fever
- b. Signs and symptoms
  - (1) Impending attack
    - (a) Dry cough
    - (b) Sensation of tightness in the chest
    - (c) Slow laborious breathing
  - (2) Acute attack
    - (a) Wheezing
    - (b) Profuse sweating
    - (c) Strenuous expiration
    - (d) Cyanosis
- c. Treatment
  - (1) Orthopnic or semi-orthopnic position
  - (2) Rest
  - (3) Decrease anxiety
  - (4) Observe for dehydration
  - (5) Breathing exercises
  - (6) Oxygen therapy if ordered

C. Questions From Students

III. SUMMARY (1 min)

A. Review of Main Points

1. Definition
2. Respiratory conditions
3. Causes
4. Signs and symptoms
5. Treatment

B. Closing Statement: You are the members of the medical team most involved with the observation and direct nursing care of the patients. Your ability to report respiratory distress and administer the prescribed treatments is vital to the patient's medical recovery.

SECOND HOUR

I. INTRODUCTION (3 min)

A. Opening Statement: Disease involving the respiratory tract is a threat to the patient's life. Effective performance of the nursing procedures for that patient is essential for his medical recovery. Without good nursing care, the patient with a respiratory condition will not improve.

B. Objectives

1. Given a patient, and after practice, perform postural drainage and percussion on the patient, as shown in class.
2. Given the equipment, and after practice, set up an oxygen tank to include: a humidifier, as shown in class.
3. Given the equipment, and after practice, administer oxygen by nasal prongs and mask (nonrebreathing, simple and Venturi), as shown in class.
4. Given a patient, and after practice, instruct and assist the patient in performing diaphramatic and pursed lip breathing exercises, as shown in class.
5. Given a diagram of an isolette and/or croup tent, label the parts to include: oxygen inlet, humidifier, and ice chamber.

C. Class Procedure and Lesson Tie-in:

This demonstration is the second hour of a three hour block of instruction on nursing procedures for respiratory conditons. The next hour will be a practical exercise.

II. DEMONSTRATION (34 min)

A. Steps in Procedure

1. Diaphramatic breathing exercise

NOTE: Use assistant instructor to demonstrate

a. Explain the procedure and it's purpose to the patient

b. Assist the patient to do exercises

  (1) Instruct the patient (in supine position) as follows:

    (a) Place one hand on the upper abdomen and the other on the chest

    (b) Inhale slowly and deeply through the nose, allowing the abdomen to expand as much as possible

    (c) Exhale through pursed lips - while pressing inward and upward on the abdomen

  (2) Instruct the patient (in sitting or standing position) as follows:

    (a) Place the hands on the lower rib cage

    (b) Inhale slowly and deeply through the nose, allowing the abdomen to expand as much as possible

    (c) Exhale through pursed lips, contracting the abdominal muscles and applying light pressure to the rib cage

QUESTION: Which condition, of the ones we have discussed, would this exercise be most helpful with?

ANSWER: Pneumonia - assists in taking deep breaths

c. Increase the length of the exercise periods gradually, starting at 2-3 minutes and progressing to 15 minutes, depending upon the patient's tolerance of the treatment.

2. Pursed lips breathing exercises

NOTE: Use assistant instructor to demonstrate

a. Explain the procedure and it's purpose to the patient

b. Assist the patient to do exercises

  (1) Instruct the patient (in supine position) as follows:

    (a) Inhale through the nose

    (b) Exhale through pursed lips while tightening the abdominal muscles and counting to 7, while prolonging expiration

  (2) Instruct the patient's (in sitting position) as follows:

    (a) Fold the arms across the abdomen

    (b) Inhale through the nose

    (c) Bend over and enhale through pursed lips while tightening the abdominal muscles and counting to 7, while prolonging expiration.

  (3) Instruct the patient (while walking) as follows:

    (a) Inhale through the nose for 2 steps

    (b) Exhale through pursed lips for 4 steps

c. Increase the length of the exercise periods gradually, starting at 2-3 minutes and progress to 15 minutes, depending upon the patient's tolerance of the treatment

QUESTION: Which breathing exercise would assist the patient with bronchial asthma?

ANSWER: Pursed lip breathing exercise - assist primarily in expiration.

3. Postural drainage and Percussion

NOTE: Use assistant instructor to demonstrate

a. Explain the procedure and it's purpose to the patient

b. Assist the patient to assume semi-jack knife position in bed

c. Provide tissues, paper bag, and sputum container

d. Instruct the patient as follows:

(1) Inhale deeply and slowly through the nose

(2) Exhale through the mouth

(3) Cough vigorously and frequently (covering mouth and nose with tissues)

(4) Collect sputum in container

(5) Turn from side-to abdomen-to side

e. Perform percussion during treatment

f. Observe patient's tolerance of treatment

DO NOT leave patient unattended

g. After treatment, position patient comfortably and allow for rest

h. Report results to include:

(1) Color, amount, and consistency of sputum

(2) Patient's tolerance of treatment

i. The position and length of treatment must be determined by the patient's tolerance - NOT to exceed 15 minutes.

4. Setting up an oxygen tank

NOTE: Use two assistants to demonstrate

a. Connecting regulator and humidifier

(1) Check cylinder label and color (should be green)

(2) Remove heavy metal valve cap

(3) "Crack" the cylinder valve

(4) Attach regulator and tighten with wrench

(5) Close flow valve

(6) Attach humidifier - fill with distilled water

(7) Open cylinder valve - SLOWLY

(8) Adjust flow

NOTE: Adjust flow as ordered. Too much oxygen can be as deadly as too little, depending on the disease.

b. Disconnecting regulator and humidifier

(1) Note contents of cylinder and record

(2) Close cylinder valve

(3) Wait for both gauges to register zero

(4) Shut off flow valve

(5) Disconnect humidifier

(6) Remove regulator

(7) Replace cylinder cap

5. Setting up wall oxygen

NOTE: Use mock wall oxygen outlets and two assistant instructors

a. Connecting flow meter and humidifier

(1) Remove dust cover

(2) Close flow valve

(3) Attach flow meter to outlet

(4) Attach humidifier - fill with distilled water

(5) Turn on oxygen supply

(6) Adjust flow

b. Disconnecting flow meter and humidifier

(1) Shut off oxygen supply

(2) Disconnect humidifier

(3) Disconnect flow meter

(4) Recap oxygen outlet

6. Administering oxygen by prongs or mask

NOTE: Use two assistants to demonstrate

a. Explain procedure to patient

b. Set up oxygen equipment

c. Fit appliance to patient

(1) Adjust head straps

(2) Fit nose section

(3) Assure mask fits properly

e. Observe patient's tolerance frequently

f. Check equipment frequently

g. Provide for patient's comfort

(1) Dry mask and face as needed

(2) Give oral care as needed

(3) Assist patient to take fluids and food if allowed

7. Assembling a croup tent and an isolette for use

NOTE: Inform students: Because of the many types of equipment in use and our limitations on time and money, only the main points concerning respiratory treatments will be outlined.

a. Croup tent

NOTE: Display T 65-340-018-6

(1) Oxygen inlet

(2) Humidifier

(3) Ice chamber

b. Isolette

NOTE: Display T 65-340-018-7

(1) Oxygen inlet

(2) Humidifier

(3) Ice chamber - used only on doctor's order

B. Questions From Students

III. SUMMARY (3 min)

A. Review of Main Points

1. Breathing exercises

2. Postural drainage

3. Setting up oxygen tank

4. Setting up wall oxygen

5. Administering oxygen by prongs or mask

B. Closing Statement: You will be required to administer treatments to patients with respiratory conditions. The rapid and uncomplicated recovery of the patient depends upon your ability to perform your job.

THIRD HOUR

I. INTRODUCTION (1 min)

A. Opening Statement: There is no better way to learn than by doing. You will take your positions and begin the

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practical exercise on command: "take your position".

B. Objectives:

1. Perform postural drainage

2. Set up an oxygen tank to include, humidifier

3. Administer breathing exercises

4. Familiarize with oxygen masks (simple, nonrebreathing, Venturi)

C. Class Procedure and Tie-in:

This is the last of three hours of instruction on nursing procedure for respiratory conditons.

II. APPLICATION (40 min)

A. Arrangement of Students

NOTE: See Annex C

B. Directions to Students

1. Under the supervision of an instructor you will perform each exercise at each station

   (a) Station #1 - postural drainage

   (b) Station #2 - set up oxygen tank

   (c) Station #2 - familiarize with masks

   (e) Station #3 - Breathing exercises

2. Observe handwashing and medical asepsis techniques

3. If an exercise is completed before scheduled time, report to visual aids station

4. The exercises will be ungraded and will be used only as a means of teaching.

C. General Plan for Conducting Practical Exercise

NOTE: See Annex D

D. Students Activities

NOTE: See Annex E

E. Instructors Activities

1. Set up PE area before third hour (See Annex C)

2. Supervise student's activities - correct errors as needed

NOTE: Instructors may guide activity verbally by stating steps as outlined in M 65-340-018- as he desires

3. Maintain class discipline and enforce safety precautions

F. Questions From Students

III. SUMMARY (1 min)

A. Review of Main Points

1. Postural drainage

2. Set up oxygen tank

3. Familiarize with masks

4. Breathing exercises

B. Closing Statement: You should now have a sound basis from which to begin your job as a clinical specialist in performing nursing procedures for respiratory conditons.

ANNEX A
INSTRUCTIONAL AIDS
Transparencies

T65-340-018-1 A drawing of the respiratory tract

NOTE: This transparency is used to support the definition of the respiratory tract.

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T 65-340-018-2	Topical outline - allergic rhinitis: cause, signs and symptoms, treatment
T 65-340-018-3	Topical outline - bronchitis: causes, signs and symptoms, treatment
T 65-340-018-4	Topical outline - Pneumonia: causes, signs and symptoms, treatment
T 65-340-018-5	Topical outline - Bronchial asthma; causes, signs and symptoms,treatment

NOTE: These transparencies follow the topical outline of LP 65-340-018 and support Lecture (1st hour)

T 65-340-018-6	Diagram of croupette
T 65-340-018-7	Diagram of isolette

NOTE: These transparencies are taken from TM 8-230- and are used in Demonstration (2nd hour)

ANNEX B
INSTRUCTIONAL AIDS

Equipment

Demonstration (2nd hour)	
Gatch bed, with pillow and linens (2 sheets, 1 pillowcase)	1
Tissues, box (may substitute TP)	1
Oxygen tanks on carriers	2
Oxygen tank regulators with flow meter	2
Oxygen humidifiers	2
Oxygen cannulas	2
Sputum cup	1
Croupette (if available)	1
Isolette (if available)	1
Paper bag, med.	1
Bed linen protector, Chux	1
Oxygen masks, simple	2
Oxygen masks, Venturi	2
Oxygen masks, non rebreathing	2
Mock wall oxygen outlets	2
Wrench, oxygen tank	2
Practical Exercise (3rd hour)	
Oxygen tanks - mounted on carriers	12
Oxygen regulators with flow meters	12
Humidifiers	12
Oxygen masks, simple	13
Oxygen masks, Venturi	13
Oxygen masks, non rebreathing	13

Bed linen protectors, Chuxes	100
Specimen containers, nonsterile (sputum)	100
Tissues, boxes	18
Paper bags, med	100
Oxygen cannulas	13
Mock wall oxygen outlets	4
Wrench, oxygen tank	12
Wall oxygen flow meters	4
Humidifiers	4
Tags, for oxygen tank pressure label, with strings	12
Croupette	1
Crib	1
Isolette	1

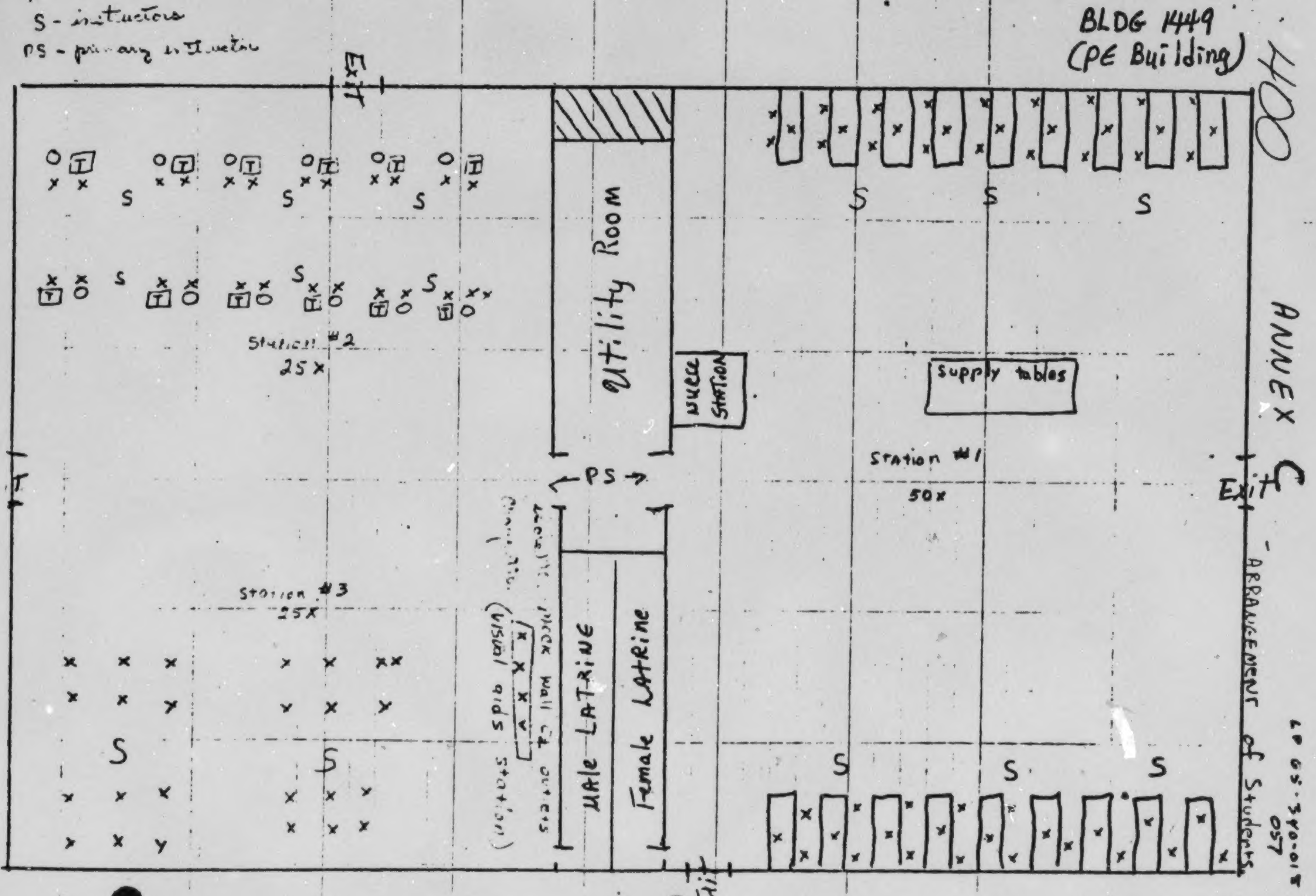
T - tables - to hold: regulator & flow meter, humidifier, O2 prongs - wrenche (oxygen tank) O2 masks (simple, Venturi, nonrebreathing) 1 each

O - oxygen tanks

X - students

S - instructors

PS - primary instructor



BLDG 1449
(PE Building)
400
Exit
Utility Room
NURSE STATION
Supply tables
Station #1
50X
Station #2
25X
Station #3
25X
PS
Male LATRINE
Female LATRINE
[illegible] Wall outlets
(visual aids station)
ANNEX
Exit
S

ARRANGEMENT of Students

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ANNEX D

LP 65-340-018
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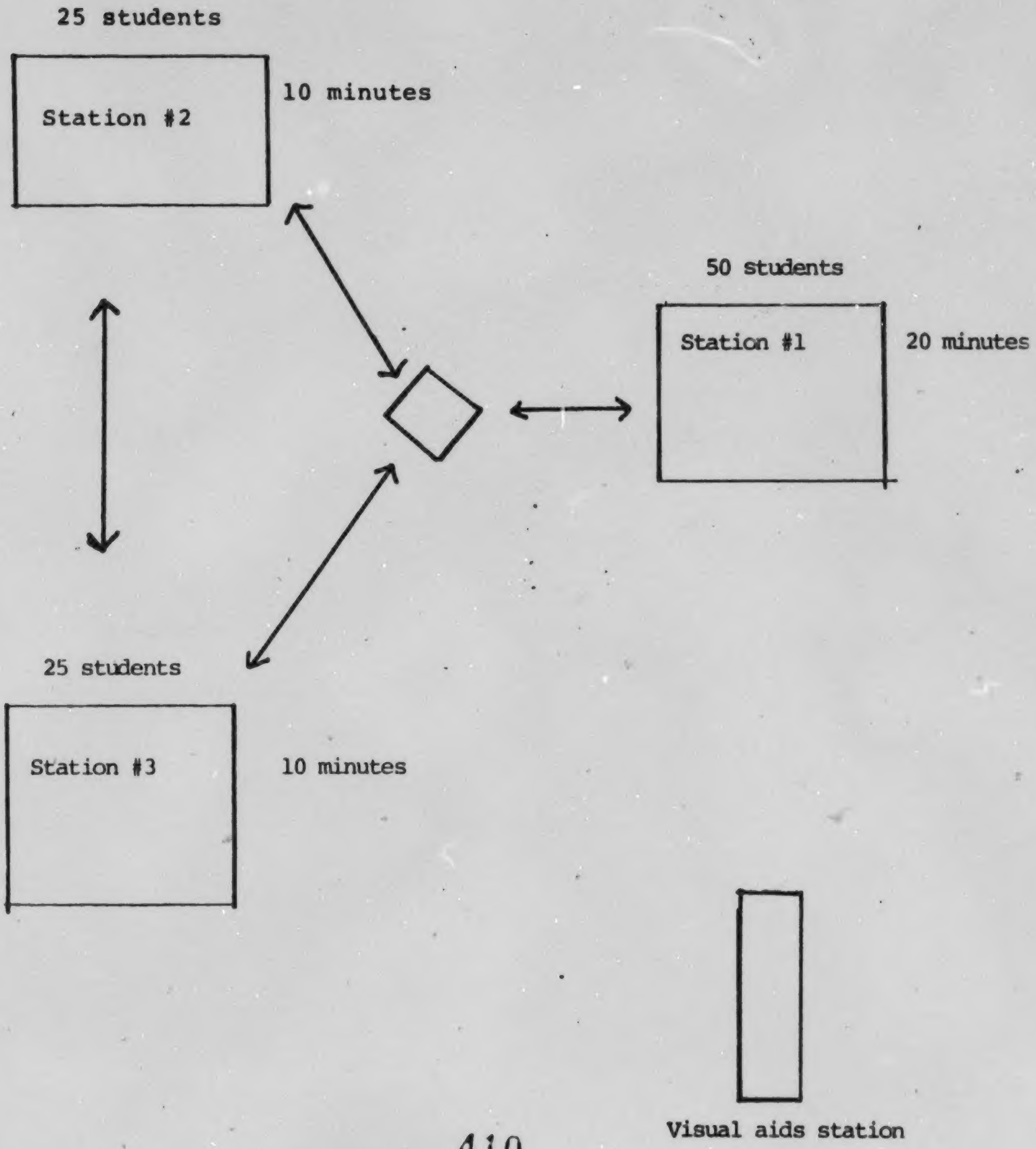
General Plan for Conducting Practical Exercise


25 students
Station #2
10 minutes
50 students
Station #1
20 minutes
25 students
Station #3
10 minutes
Visual aids station

Students Activities

Station #1 - In teams of 2-3 students. One student taking the role of the patient and one student taking the role of corpsman, rotating until each has administered postural drainage and each has played the role of the patient.

Station #2 In teams of 2-3 students. One student to set up oxygen tank to include: regulator and flow meter, humidifier and nasal prongs - rotating to familiarize with masks (simple, Venturi, nonrebreathing)

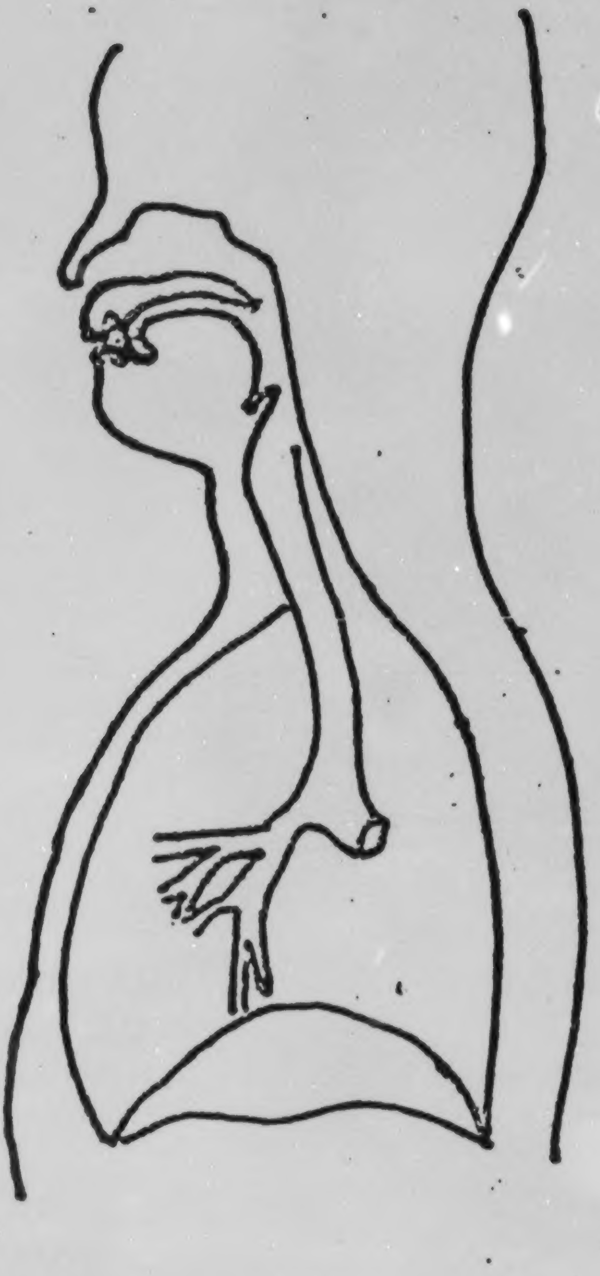
Station #3 In teams of 2-3 student, one student taking the role of the patient and one student taking the role of the corpsman - rotating until each has administered breathing exercises and each has played the role of the student.

Visual Aids Station:

Mock Wall oxygen outlets

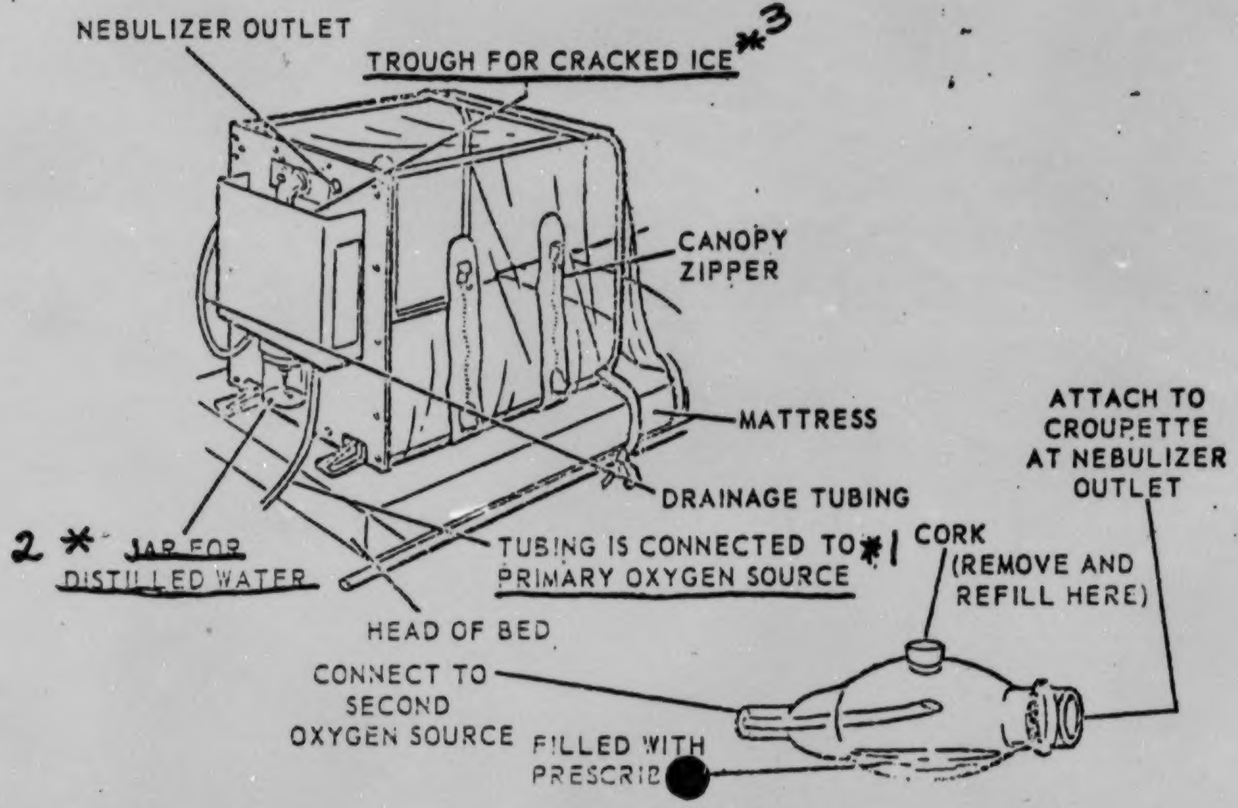
One isolette set-up for use and labeled (tags)

One croupette set-up for use and labeled (tags)



spiratory system: the lungs and the respiratory passages,
o include nasal cavities, pharynx, mouth, trachea, bronchi,
ronchioles, and alveoli.

1. Oxygen inlet
2. Humidifier
3. Ice chamber


NEBULIZER OUTLET
TROUGH FOR CRACKED ICE *3
CANOPY ZIPPER
MATTRESS
DRAINAGE TUBING
2 * JAR FOR DISTILLED WATER
TUBING IS CONNECTED TO PRIMARY OXYGEN SOURCE *1
HEAD OF BED
CORK (REMOVE AND REFILL HERE)
ATTACH TO CROUPETTE AT NEBULIZER OUTLET
CONNECT TO SECOND OXYGEN SOURCE
FILLED WITH PRESCRIB

M 65-340-018-4
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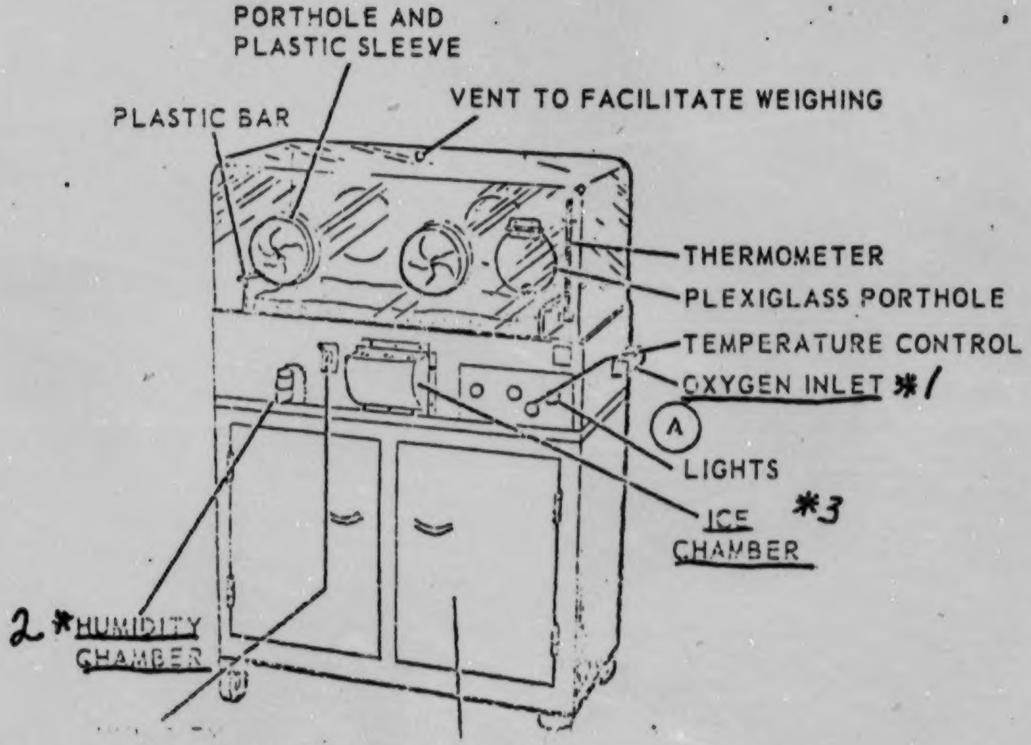
1. Oxygen inlet
2. Humidifier
3. Ice chamber

C 1, TM 8-230


PORTHOLE AND PLASTIC SLEEVE
VENT TO FACILITATE WEIGHING
PLASTIC BAR
THERMOMETER
PLEXIGLASS PORTHOLE
TEMPERATURE CONTROL
OXYGEN INLET *1
A
LIGHTS
ICE CHAMBER *3
2 *HUMIDITY CHAMBER

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057

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SP6 Banks
IM 65-340-018
057

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ENLISTED INSTRUCTIONAL BRANCH

Nursing Procedures for Respiratory Conditions

The sole function of the respiratory tract is the exchange of oxygen and carbon dioxide. The entire body and all of it's systems depend on oxygen. Any abnormality involving the respiratory tract is a threat to every other body organ. Deficiencies in the normal respiratory process can cause disease and/or death. It will be your responsibility to give treatments and report signs and symptoms of any changes in the patient's condition. If you fail to recognize respiratory distress, or are unable to give prescribed treatments, that patient may become seriously ill or die.

The respiratory tract consists of the lungs and the respiratory passages to include: nasal cavities, pharynx, mouth (when open, trachea, bronchi, bronchioles, and alveoli.

One of the conditions affecting the respiratory tract is allergic rhinitis. It is induced by airborne pollens.

The mucous membranes of the nose become swollen and may itch, burn, and secrete a thin discharge. The patient will experience violent sneezing, and may complain of red, burning, and watering eyes.

The treatment for allergic rhinitis consists of prescribing nasal sprays, eyewashes and antihistamines. In severe cases the patient may be referred to the allergy clinic.

Another of the conditions affecting the respiratory tract is bronchitis. This disease may be the result of a complication of an upper respiratory tract infection or the inhalation of physical or chemical irritants.

The patient will have a dry irritating cough accompanied by sternal soreness.

The patient with bronchitis should be placed in an orthopnic or semi-orthopnic position to facilitate breathing. This position allows the patient to fully expand his lungs, take in more oxygen, and reduce his respiratory difficulty. Time for rest and measures to decrease anxiety should be provided to reduce any additional stress on the respiratory system. Postural drainage and breathing exercises may be beneficial in assisting the patient to take deep breaths and expel accumulations of secretions in the respiratory tract. Observations for cyanosis should be performed frequently.

Cyanosis is one of the first signs of a severe lack of oxygen to the tissues of the body. It is a bluish coloring of the skin or mucous membranes and will be noted, first, in the nailbeds, lips, and tongue. The mental status of the patient should also be assessed frequently. A change of mental status may indicate a severe lack of oxygen affecting the brain. Mental status may be defined as the patient's ability to associate appropriately with his surroundings. To check mental status, questions such as "What day is it?, or "Where are you?", may be asked. Some signs of a changed mental status may be restlessness, increased anxiety, confusion, or disorientation. Oxygen therapy may be necessary, if ordered by the physician.

A very serious condition of the respiratory tract is pneumonia. It may be a complication of an upper respiratory tract infection. Aspiration of foreign bodies into the respiratory tract may also cause pneumonia. Prolonged immobility of a patient may result in pneumonia because the patient does not breathe deeply enough, nor cough effectively.

A patient with pneumonia will complain of pain in the chest on breathing. His respirations will be short and rapid, accompanied by a short painful cough. His sputum may be bloody or rusty colored. He may display signs of anxiety, restlessness, or aggressiveness.

The patient with pneumonia should be placed in an orthopnic or semi-orthopnic position. Time for rest and measures to decrease anxiety should be provided. Anxiety may be decreased by a quiet atmosphere of reassurance. Explaining why procedures are to be done, and how they are to be performed, will alleviate his fear of new surroundings and experiences, allowing the patient to verbalize his fears will also greatly reduce his anxiety. If the physician has determined that the cause of pneumonia is bacterial or viral, it may be necessary to place that patient in isolation, to prevent the spread of the disease to others. Postural drainage and breathing exercises will assist the patient to take deep breaths and cough effectively. Frequent observations for cyanosis and changed mental status should be performed. Oxygen therapy may be necessary if ordered by the physician.

A respiratory condition which is terrifying for it's victim is bronchial asthma. A hereditary abnormality may be the basis for this condition. Pulmonary infections or hay fever may trigger an attack of bronchial asthma.

The signs of an impending attack are: a dry cough, a sensation of tightness in the chest, and slow laborious breathing. During an acute attack, the patient will wheeze, perspire profusely, and experience strenuous expirations. In severe cases, cyanosis may be present.

The patient having an acute attack of bronchial asthma should be placed in an orthopnic or semi-orthopnic position. Periods for rest and measures to decrease anxiety should be provided. This patient may easily become dehydrated because of profuse perspiration. An accurate record of the fluid intake and output should be kept. Signs of dehydration are: excessive thirst, dry skin and mucous membranes, and concentrated urine. Breathing exercises and/or oxygen therapy may be ordered by the physician.

In discussing nursing procedures for respiratory conditions, we have defined the respiratory tract and looked at a few of the diseases affecting it. We have identified some of the causes, and talked about signs and symptoms and treatments of those diseases.

You are the members of the medical team most involved with the observation and direct nursing care of the patients. Your ability to report respiratory distress and administer the prescribed treatments is vital to the patient's medical recovery.

PROCEDURE CHECK LIST 409	Satis.	Un-satis.	Comments
Diaphramatic Breathing Exercises			
a. Explains the procedure to the patient			
b. Assists the patient in doing exercises			
(1) Positions patient for exercise (supine, sitting, standing)			
(2) Instructs the patient as follows:			
(a) Inhale slowly and deeply through the nose, allowing the abdomen to expand as much as possible			
(b) Exhale through pursed lips - while contracting abdominal muscles and applying light pressure with the hands.			
Pursed Lips Breathing Exercises			
a. Explains the procedures to the patient			
b. Assists the patient in doing exercises			
(1) Positions patient for exercises (supine, sitting, walking)			
(2) Instructs the patient as follows			
(a) Inhale through the nose			
(b) Exhale through pursed lips while tightening abdominal muscles and counting to 7, while prolonging expiration			
(c) While walking; inhale through nose for 2 steps Exhale through pursed lips for 4 steps			
NOTE: Observes safety precautions and hand washing techniques			

PROCEDURE CHECK LIST 410	Satis.	Un-satis.	Comments
Postural Drainage and Percussion			
a: Explains the procedure to the patient			
b. Assists the patient to assume semi-jack knife position in bed.			
c. Provides tissue, paper bag, and sputum container			
d. Instructs the patient as follows:			
(1) Inhale deeply and slowly through the nose			
(2) Exhale through the mouth			
(3) Cough vigorously and frequently (covering mouth and nose with tissues)			
(4) Collect sputum in container			
(5) Turn from side-to abdomen-to side during treatment			
e. Performs percussion (cupped hand clapping) during treatment			
f. Observes patient's tolerance of treatment			
g. After treatment, positions patient comfortably and allows for rest.			
h. Reports results to include			
(1) Color, amount and consistency of sputum			
(2) Patient's tolerance of treatment			
NOTE: Observes safety precautions and hand washing techniques			

PROCEDURE CHECK LIST	Satis.	satis.	Comments
Setting up an Oxygen Tank			
a. Checks cylinder label and color (green)			
b. "Cracks" cylinder valve			
c. Attaches regulator			
d. Attaches humidifier			
e. Opens cylinder tank			
f. Adjusts flow			
NOTE: Observes safety precautions			

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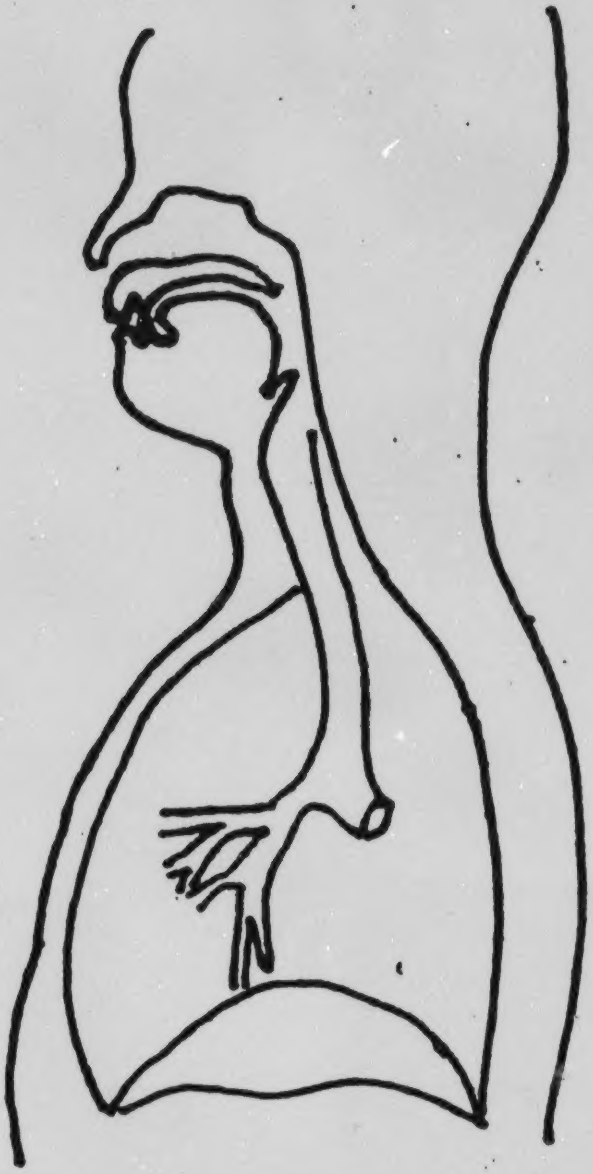
Nursing Procedures for Respiratory Conditions



Respiratory system: the lungs and the respiratory passages, to include nasal cavities, pharynx, mouth, trachea, bronchi,

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ENLISTED INSTRUCTIONAL BRANCH

Nursing Procedures For Respiratory Conditions

Objectives

1. Given a list of diseases and their definitions, select the correct definition of allergic rhinitis, bronchial asthma, pneumonia and bronchitis.

2. List the three symptoms of an impending bronchial asthma attack.

3. Given a respiratory condition discussed in class, state a cause, two signs and symptoms, and three treatments for that disease.

*4. Given a patient, and after practice, perform care for the patient with bronchial asthma to include: positioning, breathing exercises, observation for signs of dehydration and measures to decrease anxiety.

*5. Given a patient, and after practice, perform care for the patient with pneumonia or bronchitis to include: positioning, observation for cyanosis, observation of mental status and measures to decrease anxiety.

NOTES

1. Allergic rhinitis: An inflammation of the mucous membranes of the nose.

   a. Cause

   b. Signs and symptoms

      (1)

      (2)

      (3)

      (4)

*Terminal objective

414

c. Treatment

(1)

(2)

(3)

(4)

2. Bronchitis: An inflammation of the mucous membranes of the trachea and the bronchial tree.

a. Causes

(1)

(2)

b. Signs and symptoms

(1)

(2)

c. Treatment

(1)

(2)

(3)

(4)

425

(5)

(6)

(7)

(8)

3. Pneumonia: Partial solidification of the lung, due to the filling of the alveoli with an inflammatory exudate.

a. Causes

(1)

(2)

(3)

b. Signs and symptoms

(1)

(2)

(3)

(4)

(5)

c. Treatment

(1)

(2)

(3)

416

(4)

(5)

(6)

(7)

(8)

(9)

4. Bronchial asthma: A form of paroxysmal dyspnea, predominantly expiratory in type.

   a. Causes

      (1)

      (2)

      (3)

   b. Signs and symptoms

      (1) Impending attack

         (a)

         (b)

         (c)

      (2) Acute attack

427

417

(a)

(b)

(c)

(d)

c. Treatment

(1)

(2)

(3)

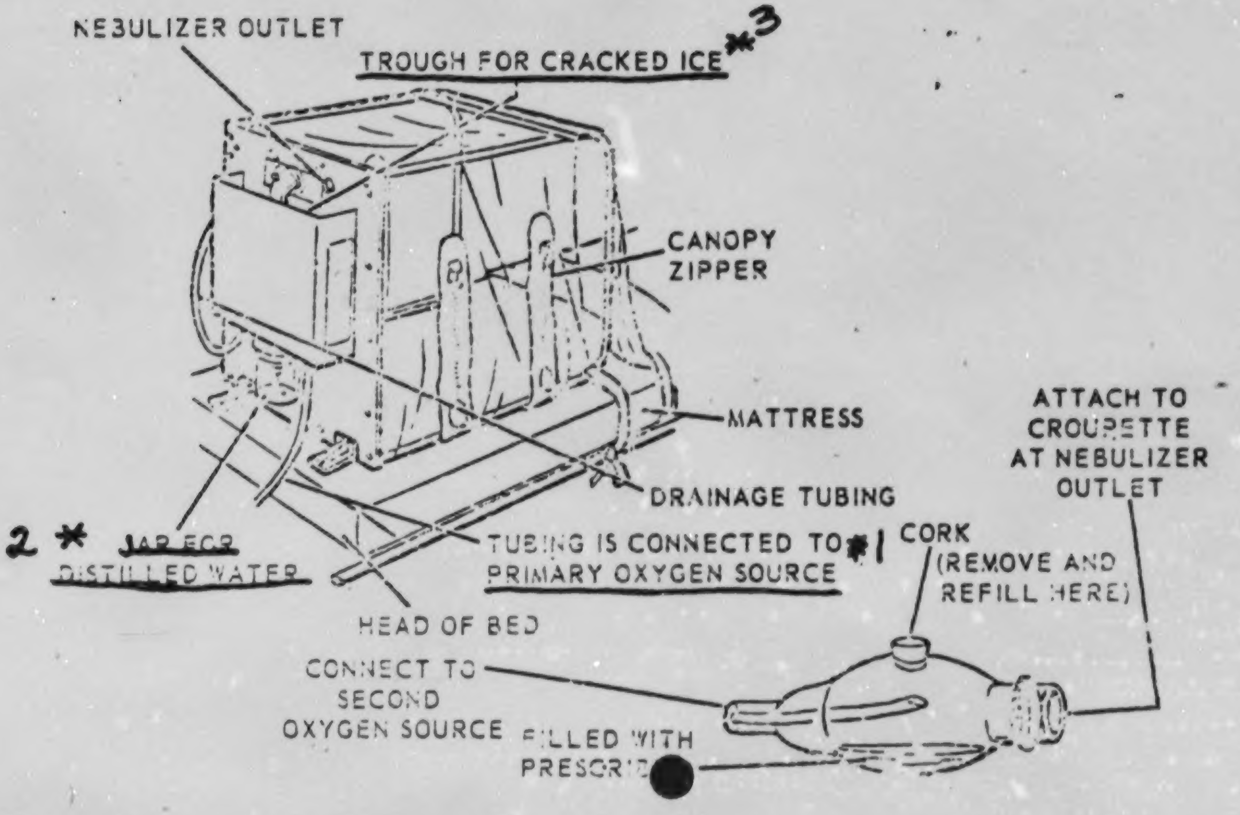
(4)

(5)

(6)

428

1. Oxygen inlet
2. Humidifier
3. Ice chamber


NEBULIZER OUTLET
TROUGH FOR CRACKED ICE *3
CANOPY ZIPPER
MATTRESS
DRAINAGE TUBING
ATTACH TO CROUPETTE AT NEBULIZER OUTLET
2 * JAR FOR DISTILLED WATER
TUBING IS CONNECTED TO PRIMARY OXYGEN SOURCE *1
CORK (REMOVE AND REFILL HERE)
HEAD OF BED
CONNECT TO SECOND OXYGEN SOURCE
FILLED WITH PRESCRI

SP6 Banks
M 65-340-018-3
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ACADEMY OF HEALTH SCIENCES, USA
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ENLISTED INSTRUCTIONAL BRANCH

Nursing Procedures For Respiratory Conditions

Objectives

1. Given a patient, and after practice, perform postural drainage and percussion on the patient as shown in class.
2. Given the equipment, and after practice, set up an oxygen tank to include: a humidifier, as shown in class.
3. Given the equipment, and after practice, administer oxygen by nasal prongs and mask (nonrebreathing, simple and Venturi, as shown in class.
4. Given a patient, and after practice, instruct and assist the patient in performing diaphiamatic and pursed lip breathing exercises, as shown in class.
5. Given a diagram of an isolette and/or croup tent, label the parts to include: oxygen inlet, humidifier, ice chamber.

Steps in Procedure

NOTE: Stress observation of safety precautions and use good medical asepsis.

Breathing exercises are done to correct deficits and increase the efficiency of breathing. They promote muscle relaxation and relieve anxiety. Breathing exercises may be used to slow the respiratory rate and decrease the work of breathing. They may also be used to prevent poor chest expansion and the trapping of air within the lungs and bronchial tree.

1. Diaphramatic breathing exercises
    a. Explain the procedure and its purpose to the patient
    b. Assist the patient in doing exercises
        (1) Instruct the patient in supine position as follows:
            (a) Place one hand on the upper abdomen and the other on the chest.

420

(b) Inhale slowly and deeply through the nose, allowing the abdomen to expand as much as possible

(c) Exhale through pursed lips while pressing inward and upward on the abdomen.

(2) Instruct the patient in sitting or standing position as follows:

(a) Place the hands on the lower rib cage

(b) Inhale slowly and deeply through the nose, allowing the abdomen to expand as much as possible.

(c) Exhale through pursed lips, contracting the abdominal muscles and applying light pressure to the rib cage.

c. Increase the length of the exercise periods gradually, starting at 2-3 minutes and progressing to 15 minutes, depending on the patient's tolerance of the treatment.

2. Pursed lip breathing exercises

a. Explain the procedure and its purpose to the patient

b. Assist the patient in doing exercises

(1) Instruct the patient in supine position as follows:

(a) Inhale through the nose

(b) Exhale through pursed lips while tightening abdominal muscles and counting to 7, while prolonging expiration.

(2) Instruct the patient in sitting position as follows:

(a) Fold the arms across the abdomen

(b) Inhale through the nose

(c) Bend over and exhale through pursed lips while tightening the abdominal muscles and counting to 7, while prolonging expiration.

432

(3) Instruct the patient (while walking) as follows:

   (a) Inhale through nose for 2 steps

   (b) Exhale through pursed lips for 4 steps

c. Increase the length of the exercise periods gradually, starting at 2-3 minutes and progress to 15 minutes, depending on the patient's tolerance of the treatment.

3. Postural drainage and percussion are used to assist in loosening and promoting the drainage of mucous and secretions from the lungs and bronchial tree.

NOTE: Stress medical asepsis

a. Explain the procedure and its purpose to the patient

b. Assist the patient to assume the semi-jack knife position in bed

c. Provide tissues, paper bag, and sputum container

d. Instruct the patient as follows:

   (1) Inhale deeply and slowly through the nose

   (2) Exhale through the mouth

   (3) Cough vigorously and frequently (covering mouth and nose with tissues).

   (4) Collect sputum in container

   (5) Turn from side-to abdomen-to the other side during treatment

e. Perform percussion during treatment

f. Observe patient's tolerance of treatment

DO NOT leave patient during treatment

g. After treatment, position patient comfortably and allow for rest

422

h. Report results to include:

   (1) Color, amount, and consistency of sputum

   (2) Patient's tolerance of treatment

i. The position and length of treatment must be determined by the patient's tolerance -- not to exceed 15 minutes.

Oxygen therapy will be necessary when the respiratory system fails to supply enough oxygen to the body. Anoxia (lack of oxygen) may be caused by disease or chronic respiratory conditions. The administration of oxygen is considered a life saving measure, therefore, it is essential that the treatment be done quickly and correctly.

NOTE: Stress safety precautions -- No smoking or fire hazards

4. Setting up an oxygen tank

   a. Connecting regulator and humidifier

      (1) Check cylinder label and color (should be given)

      (2) Remove heavy metal valve cap

      (3) "Crack" the cylinder valve

      (4) Attach regulator and tighten with wrench

      (5) Close flow valve

      (6) Attach humidifier - fill with distilled water

      (7) Open cylinder tank - SLOWLY

      (8) Adjust flow

NOTE: Stress accuracy of flow. Too much oxygen can be as deadly as too little.

   b. Disconnecting regulator and humidifier

      (1) Note contents of cylinder and record

      (2) Close cylinder valve

      (3) Wait for both gauges to register zero.

    - (4) Shut off flow valve
    - (5) Disconnect humidifier
    - (6) Remove regulator
    - (7) Replace cylinder cap

5. Setting up wall oxygen
    - a. Connecting flow meter and humidifier
        - (1) Remove dust cover
        - (2) Close flow valve
        - (3) Attach flow meter to outlet
        - (4) Attach humidifier - fill with distilled water
        - (5) Turn on oxygen supply
        - (6) Adjust flow
    - b. Disconnecting flow meter and humidifier
        - (1) Shut off oxygen supply
        - (2) Disconnect humidifier
        - (3) Disconnect flow meter
        - (4) Recap outlet
6. Administering oxygen by prongs or mask
    - a. Explain procedure to patient
    - b. Set up oxygen equipment
    - c. Have patient exhale while applying
    - d. Fit appliance to patient
        - (1) Adjust head strap
        - (2) Fit nose section
        - (3) Assure mask fits properly

424

e. Observe patient's tolerance frequently

f. Check equipment frequently

g. Provide for patient comfort

    (1) Dry mask and face as needed

    (2) Give oral care

    (3) Assist to take fluids and food, if allowed

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SP6 Mershon
M 65-340-018-1
057

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NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Nursing Procedures For Respiratory Conditions

Objectives

1. Given a list of diseases and their definitions, select the correct definition of allergic rhinitis, bronchial asthma, pneumonia and bronchitis.

2. List the three symptoms of an impending bronchial asthma attack.

3. Given a respiratory condition discussed in class, state a cause, two signs and symptoms, and three treatments for that disease.

*4. Given a patient, and after practice, perform care for the patient with bronchial asthma to include: positioning, breathing exercises, observation for signs of dehydration and measures to decrease anxiety.

*5. Given a patient, and after practice, perform care for the patient with pneumonia or bronchitis to include: positioning, observation for cyanosis, observation of mental status and measures to decrease anxiety.

NOTES

1. Allergic rhinitis: An inflammation of the mucous membranes of the nose.

   a. Cause

   b. Signs and symptoms

      (1)

      (2)

      (3)

      (4)

*Terminal objective

426

c. Treatment

(1)

(2)

(3)

(4)

2. Bronchitis: An inflammation of the mucous membranes of the trachea and the bronchial tree.

a. Causes

(1)

(2)

b. Signs and symptoms

(1)

(2)

c. Treatment

(1)

(2)

(3)

(4)

(5)

438

(6)

(7)

(8)

3. Pneumonia: Partial solidification of the lung, due to the filling of the alveoli with an inflammatory exudate.

a. Causes

(1)

(2)

(3)

b. Signs and symptoms

(1)

(2)

(3)

(4)

(5)

c. Treatment

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

4. Bronchial asthma: A form of paroxysmal dyspnea, predominantly expiratory in type.

   a. Causes

      (1)

      (2)

      (3)

   b. Signs and symptoms

      (1) Impending attack

         (a)

         (b)

         (c)

      (2) Acute attack

(a)

(b)

(c)

(d)

c. Treatment

(1)

(2)

(3)

(4)

(5)

(6)

SP5 P.J.Garrett
LP 65-340-019
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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Nursing Procedures in Disorders of the Bowel (2 hours)

COURSES PRESENTED TO: 300-91C20, Clinical Specialist (Primary)

PLACE: Classroom

REFERENCES:

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Thompson, Ella M. and Rosdahl, Caroline B. Textbook of Basic Nursing. 2d ed. Philadelphia: J.B. Lippincott Co., 1973, pp 643-645.
Wood, Lucile A. (ed). Nursing Skills for Allied Health Sciences. Vol I-III. Philadelphia: W.B. Saunders Co., 1972, Vol II, Unit 22.

STUDY ASSIGNMENT: Read: TM 8-230, chap 5, pp 5-77 - 5-78, 5-115

STUDENT UNIFORM AND EQUIPMENT: Not applicable

TOOLS, EQUIPMENT AND MATERIALS: M 65-340-019-1 handed out beginning of class

PERSONNEL: One (1) Primary, four (4) secondary instructors (Nursing Science Division)

INSTRUCTIONAL AIDS: Transparencies (4) T 65-340-019-1 thru 4 (See Annex A), overhead projector

TROOP REQUIREMENTS: Not applicable

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: 1 L, 1 D

FIRST HOUR

I. INTRODUCTION (3 min)

A. Opening Statement: Our topic for this forty-five minute block of instruction is disorders of the bowel. Why is it people feel uneasy when discussing the bowels? Some people feel this is a very personal subject and it should not be discussed in public. A loss of self body image is commonly present when a bowel disorder is present. This is not the most glamourized aspect of nursing, let's face it! It is, however, an important part of patient care. These disorders are very common and can be extremely painful. Therefore, you the clinical specialist, need a thorough knowledge of this subject material to properly care for these patients.

B. Objectives:

1. Given a list of definitions, select the definition of: (a) pilonidal cyst,(b) hemorrhoid,(c) fissure in ano,(d) intestinal obstruction,(e) appendicitis.

2. Briefly, discuss the care of a patient with a pilonidal cyst to include: positioning, cleansing of the wound and comfort measures.

3. Identify the signs and symptoms of intestinal obstruction.

4. Briefly, discuss the care of a patient with hemorrhoids to include: positioning, control of bleeding and comfort measures.

C. Class Procedure and Lesson Tie-in:

This is the first hour in a two-hour block dealing with disorders of the bowel. This hour is a lecture and will be followed by one hour of demonstration. The demonstration portion will give you a better understanding of the material in today's lecture.

II. EXPLANATION (35 min)

A. Definitions

1. Pilonidal cyst - a cyst in the coccygeal region often containing hair

QUESTION: What is a hemorrhoid?

ANSWER: 2. Hemorrhoid - varicose veins of the anal canal.

a. External - located outside of the rectum

b. Internal - located inside the rectum

3. Fissure in ano - a longitudinal ulcer (a crack which does not heal) in the anal canal associated frequently with constipation and severe pain.

4. Intestinal obstruction - an interruption in the normal flow of intestinal contents along the intestinal tract.

5. Appendicitis - inflammation of the appendix due to an infection, usually requiring surgical intervention.

B. Care of the Patient With a Pilonidal Cyst

1. Positioning

a. Patient is likely to be uncomfortable on his back

b. Place patient on the abdomen if possible

c. Lying on either side with a pillow between legs

2. Cleansing of the wound

a. Requires a doctor's order

b. Follow ward SOP as to solutions used for open wounds and specifies of procedure

c. Use aseptic technique to prevent infection

3. Comfort measures

a. Proper positioning

b. Frequent sitz baths

(1) Water temperature 110-115°F

(2) 10-20 minutes in length

(3) Ring or donut in tub for patient to sit on

    c. Report complaints of pain immediately so analgesics can be administered

C. Signs and Symptoms of Intestinal Obstruction

1. Sharp intermittent abdominal pain

2. Vomiting (if the obstruction is complete, fecal matter will be vomited)

3. Abdominal distention

4. Constipation

5. Shock due to dehydration

QUESTION: What is the water temperature for a sitz bath?

ANSWER: 110-115°F

D. Care of a Patient With Hemorrhoids

1. Poisitioning

    a. Place patient on abdomen

    b. Either side with a pillow between the legs

2. Control of bleeding

    a. Medications and diet to keep stools soft

    b. Mineral oil given p.o. (by mouth) to lubricate anal canal

    c. Gelfoam or oxycel gauze

3. Comfort measures

    a. Relieve pain

        (1) Analgesic ointments

        (2) Local application of ice

        (3) Sitz baths

    b. Proper positioning

    c. Surgery

QUESTION: What substance is given P.O., to a patient with hemorrhoids, to lubricate the anal canal?

ANSWER: Mineral oil

E. Question From Students

III. SUMMARY (2 min)

A. Review of Main Points

1. Definitions of bowel disorders

2. Care of the patient with a pilonidal cyst

3. Signs and symptoms of intestinal obstruction

4. Care of the patient with hemorrhoids

B. Closing Statement: Disorders of the bowel, as I stated previously, are very common and in most cases extremely painful. You the clinical specialist will be called upon to care for these patients and occasionally even to give guidance. The families and patients will require health teaching and you the 91C will have to give accurate information. This and only this insure a speedy recovery for your patient.

SECOND HOUR

I. INTRODUCTION (3 min)

A. Opening Statement: In the learning process you must first establish a basic understanding and then expand from that basic concept. The first hour covered the definitions, signs and symptoms and different procedures of patient care. Today we will have a demonstration of several of these same procedures. The procedures covered in this block of instruction will assist you in caring for the patient with a disorder of the bowel.

B. Objectives:

1. Demonstrate the care of a patient with a pilonidal cyst or fissure in ano to include: observation of stool, positioning, cleansing of wound and comfort measures.

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2. Demonstrate the care of a patient with hemorrhoids to include: positioning, control of bleeding, observation of stool and comfort measures.

3. Demonstrate preparing a patient for a sitz bath.

C. Class Procedure and Lesson Tie-in:

This is the final hour dealing with disorders of the bowel. You will be tested on this material the final week of Phase I.

II. DEMONSTRATION (35 min)

A. Care of the Patient With:

1. Pilonidal cyst

Positioning:

a. Place patient in prone position

(1) Wash hands

(2) Log roll patient onto abdomen

(3) Turn patient's head to one side

(4) Place a folded towel under each shoulder

(5) Insure that the spine is straight

(6) Place arms flat at sides or flexed at elbow near patient's head

(7) Keep feet in proper alignment by using foot boards

b. Place patient on either side

(1) Wash hands

(2) Log roll patient onto side

(3) Place lower arm forward of body

(4) Place small pillow under head

(5) Undertuck pillow along back

(6) Flex and support lower arm on pillow used for head

(7) Flex top arm and rest on pillow in front of body

(8) Flex top leg and bring slightly forward

(9) Place pillow lengthwise between legs

(10) Support feet with positioning aids to prevent plantar flexion

(11) Give special attention to proper body alignment

NOTE: Cleansing of wounds and comfort measures will be Phase II activities

2. Fissure in ano

a. Observation of stool

QUESTION: How do you check for blood in the stool?

ANSWER: Visualize the stool and/or guaiac

(1) Visualize the stool checking for blood

(2) Guaiac the stool

(a) Obtain a small sample

(b) Place the specimen on guaiac paper

(c) Add two drops of the chemical reagent

(d) Wait 30 seconds

(e) Read for results (blue indicates the presence of occult blood)

b. Positioning

QUESTION: What positions will make this patient more comfortable?

ANSWER: Prone and side lying.

(1) Place patient in prone position

(2) Place patient on either side

(3) Refer to positioning for pilonidal cyst for explanation

NOTE: Comfort measures will be a Phase II activity.

B. Care of the Patient With Hemorrhoids

1. Positioning

NOTE: Refer to positioning for pilonidal cyst

2. Comfort measures

a. Ice packs to area

(1) Check doctor's orders

(2) FIll ice bag

(3) Cover bag with a towel

(4) Drape patient for utmost privacy

(5) Apply ice pack to area

(6) Check patient periodically to insure desirable effects of ice pack and comfort of the patient

b. Proper positioning

NOTE: Preparing a patient for a stiz bath will be a Phase II activity.

C. Question From Students

III. SUMMARY (3 min)

A. Review of Main Points

1. Care of the patient with a pilonidal cyst or fissure in ano

2. Care of the patient with hemorrhoids

B. Closing Statement: The patient with a bowel disorder needs proper care and lots of reassurance. These disorders, if not taken seriously can worsen to the point of threatening life itself. The procedures covered today will enable you to give concise care, thus, enhancing a speedy recovery. Out job is patient care and without a thorough knowledge of these procedures your patients may suffer needlessly.

Transparencies

T 65-340-019-1	Definitions of pilonidal cyst, hemorrhoid, fissure in ano and intestinal obstruction
T 65-340-019-2	Definition of appendicitis, positioning and cleansing of wound for pilonidal cyst
T 65-340-019-3	Comfort measures for pilonidal cyst signs and symptoms of intestinal obstruction
T 65-340-019-4	Care of patient with hemorrhoids to include: positioning, control of bleeding and comfort measures

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Equipment

Guaiac Kits	5
Tongue Blades	10
Bed pans	5
Pillows	15
Ice Packs	5
Towels	10
Pillow cases	15
Foot boards	5

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ACADEMY OF HEALTH SCIENCES, USA M 65-340-019
NURSING SCIENCE DIVISION 057
ENLISTED INSTRUCTIONAL BRANCH

Nursing Procedures in Disorders of the Bowel

Objectives:

1. Given a list of definitions, select the definition of: (a) pilonidal cyst, (b) hemorrhoid, (c) fissure in ano, (d) intestinal obstruction, (e) appendicitis.

2. Briefly discuss the care of a patient with a pilonidal cyst to include: positioning, cleansing of the wound and comfort measures.

3. Identify the signs and symptoms of intestinal obstruction.

4. Briefly discuss the care of a patient with hemorrhoids to include: positioning, control of bleeding and comfort measures.

NOTES

A. Definitions

1.

2.

a.

b.

3.

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4.

5.

B. Care of a Patient With a Pilonidal Cyst

1.

   a.

   b.

   c.

2.

   a.

   b.

   c.

3.

a.

b.

(1)

(2)

(3)

c.

C. Signs and Symptoms of Intestinal Obstruction

1.

2.

3.

4.

5.

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D. Care of a Patient With Hemorrhoids

1.

a.

b.

2.

a.

b.

c.

3.

a.

(1)

(2)

(3)

b.

c.

ACADEMY OF HEALTH SCIENCES, USA IM 65-340-019
NURSING SCIENCE DIVISION 057
ENLISTED INSTRUCTIONAL BRANCH

Nursing Procedures in Disorder of the Bowel

Our topic for this forty-five minute block of instruction is disorders of the bowel. Why is it people feel uneasy when discussing the bowel? Some people feel this is a very personal subject and should not be discussed in public. A loss of self body image is commonly present with bowel disorders. This is not the most glamourized aspect of nursing, let's face it! It is, however an important part of patient care. These disorders are common and can be extremely painful. Therefore, you the clinical specialist need a thorough knowledge of this subject to care for these patients.

To give you a basic understanding, we shall first define several disorders associated with the bowels. A pilonidal cyst is a cyst located in the coccygeal region often containing hair. What is the definition of hemorrhoid? It is very simply, varicose veins of the anal canal. There are two types of hemorrhoids, external and internal. External hemorrhoids are located outside the rectum while internal are located inside the rectum. Fissure in ano is our next definition. This condition involves the anal canal. Specifically, a longitudinal ulcer in the anal canal associated frequently with constipation and severe pain. An ulcer is a crack which does not heal.

Intestinal obstruction is another definition you are responsible for, an interruption in the normal flow of intestinal contents along the intestinal tract is the definition of intestinal obstruction. The final definition is that of appendicitis. An appendicitis is the inflammation of the appendix due to an infection usually requiring surgical intervention.

The next main topic today is caring for a patient with a pilonidal cyst. Several important topics are applicable in this type of care. Positioning can be extremely important to this patient. A pilonidal cyst is usually extremely painful. This patient is likely to be uncomfortable on his back. Placing the patient on his abdomen is very effective. An excellent maneuver is to position on either side with a pillow between the legs. The pillow is used to prevent decubitis ulcers.

This patient may or may not have an open wound, depending on the specific type of treatment. Any cleansing of a wound requires a doctor's order. Each ward may have a different method of performing this task, thus, making it essentially important to check the standard operating procedure book. An abbreviation commonly used is SOP. In the SOP, guidelines will state the proper methods for cleaning a wound. The one most important aspect when dealing with an open wound is aseptic technique. Sterile technique is critical in the prevention of infection. Setting up a sterile field for the procedure is just as important as the technique during the procedure. If sterility is broken at any point you must discard the equipment and start over again. This may seem tedious but the patient will benefit in the long run.

Comfort measures play a great importance in the concept of total patient care. Making the patient as comfortable as possible will greatly increase the rapport between patient and staff. Proper positioning is very simple, but extremely effective in putting the patient at ease. Proper utilization of the sitz bath will greatly reduce the patient's pain. The doctor must order the sitz bath and, with these patients, this is a frequent practice. The water temperature is most effective at 110-115°. Variations may make the patient uncomfortable, thus, destroying the whole purpose. The bath lasts from ten to twenty minutes. A ring or donut is generally placed in the tub for the patient to sit on. Good judgement is required on your part as patient's demands can be diverse and demanding. Placing yourself in the patient's position can be very enlightening.

Pain is an emotion everyone deals with differently. A patient depends on the staff to relay complaints to the medication nurse. Quick and concise reporting on your part will minimize patient discomfort. Even with the previously mentioned comfort measures applied, analgesics may be required to make the patient comfortable.

The signs and symptoms of intestinal obstruction include a huge list of varying discomforts. The area affected determines the type of symptoms present. Our purpose is, however, to identify some common symptoms of intestinal obstruction, regardless of location. Sharp intermittent abdominal pain is present with all types of obstruction. Vomiting is another symptom extremely common in this disorder. If the obstruction is complete the patient will vomit fecal matter. Abdominal distention or swelling of the abdomen in conjunction with constipation is also a common symptom. If this disorder is not recognized and treated promptly, shock is inevitable. The shock is caused by dehydration or the lack of adequate fluids in the vascular system.

Care for the patient with hemorrhoids is our last main topic. Hemorrhoids are very common and regardless of the jokes, are not a laughing matter. The postitioning of this patient is exactly the same as positioning for a pilonidal cyst. Place the patient on his abdomen or either side whichever is most comfortable. A pillow is placed between the legs to prevent decubitis ulcers.

Bleeding is another undesirable aspect of hemorrhoids. The minimization of bleeding for the patient is achieved by basic concepts of patient care. Medications and diet play an important part in keepint the stool soft. Keeping the stool soft decreases the chances of bleeding. Mineral oil administered by mouth (p.o.) will lubricate the anal canal, thus, improving evacuation of fecal material. The application of gelfoam or wxycel gauze to the area also contributes to the control of bleeding.

Comfort measures are again terribly important for this patient. The relief of the patient's pain is possible by several methods. Analgesic ointments can be administered directly to the area by a nurse. The local application of ice is also effective in relieving pain. This does require a doctor's order but doctors generally are open to suggestions that provide for patient comfort. The sitz bath, as previously discussed, can also be beneficial in reducing pain and discomfort. Proper positioning will require no doctor's order and is very effective. Surgery will remove the problem completely. Thorough postoperative care is, however, extremely important regardless of the type of surgery.

Disorders of the bowel are very common and extremely painful. In most cases you,the clinical specialist, will be called on to care for these patients and occasionally to give guidance. The families and patients will need health teaching and you, the 91C, will have to give accurate information. This, and only this, will ensure a speedy recovery for your patient.

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Nursing Procedures in Disorders of the Bowel

Objectives:

1. Given a list of definitions, select the definition of: (a) pilonidal cyst, (b) hemorrhoid, (c) fissure in ano, (d) intestinal obstruction, (e) appendicitis.
2. Briefly discuss the care of a patient with a pilonidal cyst to include: positioning, cleansing of the wound and comfort measures.
3. Identify the signs and symptoms of intestinal obstruction.
4. Briefly discuss the care of a patient with hemorrhoids to include: positioning, control of bleeding and comfort measures.

NOTES

A. Definitions

1.

2.

a.

b.

3.

4.

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5.

B. Care of a Patient With a Pilonidal Cyst

1.

a.

b.

c.

2.

a.

b.

c.

3.

a.

b.

(1)

(2)

(3)

c.

C. Signs and Symptoms of Intestinal Obstruction

1.

2.

3.

4.

5.

D. Care of a Patient With Hemorrhoids

1.

a.

b.

2.

a.

b.

c.

3.

a.

(1)

(2)

(3)

b.

c.

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Death and Dying (2 hours)

COURSES PRESENTED TO: Clinical Specialist (Primary Technical) Course, 300-91C20

PLACE: Classroom

REFERENCES:

TM 8-230, 5-127 thru 5-149
Aguilera, Donna C. "Crisis: Death and Dying," ANA Clinical Sessions. New York: Appleton-Century-Crofts, 1968.
Bregman, Marcia S. Assisting the Health Team: An Introduction For the Nurse Assistant. St. Louis: The C. V. Mosby Co., 1974.
Engel, George L. "Grief and Grieving," American Journal of Nursing, 64: 93-98, September 1964.
Kubler-Ross, Elizabeth. On Death and Dying. New York: Macmillan Co., 1969.
Schwartz, Lawrence H. & Schwartz, Jane L. The Psychodynamic of Patient Care. Englewood Cliffs: Prentice Hall, 1972.
Wood, Lucile A. (ed). Nursing Skills for Allied Health Sciences. Vol II. Philadelphia: W. B. Saunders Co., 1972.

STUDY ASSIGNMENT: TM 8-230, 5-147 thru 5-149

STUDENT UNIFORM AND EQUIPMENT: Not applicable

TOOL, EQUIPMENT, AND MATERIALS: Overhead projector, M 65-340-020-1.

PERSONNEL: One (1) ANC instructor, ten (10) assistant instructors (Nursing Science Division)

INSTRUCTIONAL AIDS: T 65-340-020-1, T 65-340-020-2

TROOP REQUIREMENTS: Not applicable

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: 1 Lecture

FIRST HOUR

I. INTRODUCTION (3 min)

A. Opening Statement: All living things face death sometimes in their lives. It may be the death of an aged parent, young child or our own death. How we feel about death and how we deal with it are derived from our family or ethnic background and our individual faith and conception concerning death.

B. Objectives

1. List the five stages of psychosocial behavior through which the patient and his family may learn to accept death.

2. List the responsibilities of the 91C20 in caring for the dying patient and his family.

C. Class Procedure and Lesson Tie-In

First hour of a two hour block dealing with the terminally ill patient and his family.

II. EXPLANATION (40 min)

NOTE: Lesson supported by transparencies

A. Five Stages of Psychosocial Behavior

1. Denial: diagnosis and prognosis

2. Anger

a. Projected globally

b. Involving random individuals

QUESTION: Who does the patient direct this anger toward?

ANSWER: Outward toward anyone and everyone including the 91C20

3. Bargaining: to make some sort of arrangement to postpone the inevitable.

4. Depression

a. Characterized by mourning

(1) Self: life

(2) Activities: goals left undone

b. Guilt

(1) deserting family

(2) Goals: left undone

c. Sadness: loss

5. Acceptance of illness and outcome

B. Accidental or Sudden Death

1. Feeling of immediate loss

2. Evolution through 5 phases

a. Process accelerated

b. Eliminate a specific phase

C. 91C20's Responsibilities in Dealing With the Dying Patient

1. Temporary phases

2. Not always in sequence

3. 91C20 and others involved may exhibit these mechanisms in their behavior

4. View patient as a person, not a disease entity

5. Acceptance of patient

a. Provision of concerned care

b. Do not withdraw from patient

NOTE: One of the most frequent problems is withdrawal from patient because of own feelings of death.

QUESTION: What is one consideration when communicating with patient?

ANSWER: If patient has been told of his condition. Sometimes patient's quest for someone who will be dishonest in their dealing with the terminally ill patient.

6. Be honest when communicating with the patient

7. Recognize limitations

a. Refer patient and or family to:

(1) nurse

(2) physician

(3) chaplain

(4) social worker

D. Questions from students

III. SUMMARY (3 min)

A. Review of Main Points

1. Five mechanisms for coping with death

2. How coping changes with sudden death

3. 91C20's responsibilities in dealing with the dying patient

B. Closing Statement: When working with the dying patient it is imperative to continue administration of quality nursing care. These patients will be more challenging to work with because of their psychosocial behavior and our own feelings about death.

SECOND HOUR

I. INTRODUCTION (2 min)

A. Opening Statement: In the previous hour we discussed the five phases through which a patient and his family may pass in their acceptance of the diagnosis and outcome. In this hour we are going to explore our feelings about death and our feelings about dealing with the dying patient.

B. Objectives

1. List the five stages of psychosocial behavior through which the patient and his family may learn to accept death.

2. List the responsibilities of the 91C20 in caring for the dying patient.

C. Class Procedure and Lesson Tie-In

Second hour of a two hour block of instruction on the dying patient.

II. DISCUSSION (40 min)

A. Seating Arrangement

1. Groups of 10 students arranged in a circle

2. One instructor per group

B. Motivation and Conduction of Discussion

1. 91C20's will be working with they dying patient and need to understand their feelings about death.

2. This discussion will be directed by instructor with specific questions asked. Participation by all students is desired.

C. Topics for Discussion

1. Feelings about death

2. How you as a 91C20 would react when confronted by patient with anger, denial, depression?

3. How people react to the death of an infant versus the death of an aged patient?

4. How would you deal with a family member that exhibited denial, anger, depression?

NOTE: Emphasize the points that a patient can be encouraged to explore his feelings but he has to progress from one phase to another.

D. Questions From Students

III. SUMMARY (2 min)

A. Review of Main Points

1. Explored our own feelings about death

2. Explored the patient's and family's reaction to impending death

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3. Explored our feelings about the death of an infant versus the death of an aged patient.

B. Closing Statement: Death is not a topic easily discussed because of our inner feelings. By the nature of our work we need to understand our feelings, if we cannot handle our own feelings how can we offer concerned care to the dying patient.

ANNEX A
INSTRUCTIONAL AIDS

Transparency

T 65-340-020-1	Five mechanisms of patient dealing with death
T 65-340-020-1	Responsibilities of 91C20 to the patient and his family

ACADEMY OF HEALTH SCIENCES, USA
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DEATH AND DYING

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All living things inevitably face death. It may be the death of an aged parent, young child or your own death. How we feel about death, how we deal with death is learned from our family or ethnic background, our individual faith and conceptions of death.

Dr. Kubler-Ross refers to the process of dying using five stages of psychosocial behavior. Most patients facing death pass through these stages of behavior before death, although not necessarily in sequence.

The first stage is denial, which appears when the patient is confronted with his diagnosis and prognosis. He might state, "This cannot happen to me, only old people get cancer." He believes that the physician has made a mistake, and he denies that this is happening to him. Sometimes this belief is reinforced by the patient's family. The patient's family is progressing through these stages with the patient. They are as intensely involved as the patient himself. During the stage of denial there can be no effective interaction because the individual denies he is terminally ill.

The second stage if psychosocial behavior is anger. This is manifested when the patient begins to project his anger globally upon random individuals. This anger may be directed toward family, physicians, and the nursing staff.

This anger will formulate into behavior patterns the patient uses on a daily basis. The patient is beginning to accept death at this time. He realizes what is happening, because his physical state is changing or the manner in which people react to him is changing.

The nursing staff needs to exhibit extra consideration when meeting the patient's needs during this stage. The patient may not accept your first attempt to help him, so try again.

The most difficult problem facing the nursing staff will be realizing that this anger is not directed at them personally. As humans we sometimes respond with anger when we feel anger is directed toward us. If we are cognizant of the patient's situation it will be easier to control these impulses.

The third stage the patient will express after he has shown anger (at his impending death) is bargaining. The patient tries to make a deal with himself or with God, to seek a reprieve from his destiny. This bargaining may manifest itself as a change in lifestyle, a renewed faith in God or even the abstention of alcohol or cigarettes, which he feels is the causative agent.

In this stage of behavior interaction can take place because the patient feels that anything he can do might strengthen his bargaining position. The nurse should direct this interaction toward the realization that what he or she does will not alter the outcome.

The patient's next stage is depression which is characterized by mourning and lamenting death. He will grieve about his inability to reach goals he has determined for himself. There will be elements of guilt. This guilt may emanate from feelings about deserting his family. This problem may be greatly compounded if the patient's family is financially insecure. If his family contains young children, strong feelings of loss and sadness will be manifested.

The patient will become withdrawn during this stage, and will lose interest in his personal hygiene and general appearance. It will be difficult for the nursing staff to maintain an adequate food and fluid intake. He will also withdraw socially from the relationship with his family and the nursing staff.

The needs of the patient in this stage may vary. Sometimes physical needs become more time consuming and difficult to achieve. Patient interaction is more difficult because the patient may be unresponsive to verbal communication and it will be difficult for family and staff to maintain their attitudes and composure.

The last stage deals with the individual's acceptance of his illness and eventual outcome. During this stage the patient is able to relate to his family and friends and achieve some joy from the life he has yet to live.

The family and staff should encourage continued verbalization during this time, so when death occurs, the patient will feel he has provided for the care of his family to the best of his ability. This will contribute to the peace and dignity of the patient.

Some patients may not progress through these stages. Some patients continue to stay with the denial stage until death.

A patient cannot be pressured or forced to progress from one stage to another. He will do this as he is able to cope with the various aspects of each stage.

When an individual dies from a traumatic injury, the impact upon the family is immediate. The family may pass through these five stages at an accelerated rate, or may bypass specific stages.

There are several points that a clinical specialist must remember and consider when dealing with a dying patient.

The Clinical Specialist must remember to view the patient as a person and not a disease entity. By accepting the patient as a person he will be able to administer concerned care and not withdraw from the patient. Some people may not be able to work with a dying patient because they have not resolved their own ideas regarding death.

The Clinical Specialist must remember that these phases are temporary and need not occur in sequence. The Clinical Specialist may present some of the stages of psychosocial behavior as an emotional response while caring for the dying patient.

Honest communication is important when dealing with the dying patient. Avoiding the subject of death will prevent the individual from working through the difficult phases of behavior. Sometimes the specialist may speak optimistically to the patient regarding his condition and give him false hope. This may cause a setback in the patient's progression from one stage to another. It may also cause confusion.

Sometimes when working with a patient you may find that the help you can offer is inadequate. Referring the patient or his family to the Registered Nurse, Physician, Chaplain or Social Worker, may provide the specialized knowledge that can solve the problem.

When dealing with dying patients it is imperative that the Clinical Specialist continue to administer quality nursing care. These patients will be challenging to care for, because of this changing behavior. It is important, before you are faced with this situation, that you explore your own feelings about death, and resolve them to your satisfaction. Only after you have explored your own feelings about death will you be able to give your patients and their families the care and assistance they so desperately need at this time.

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

M 65-340-020-1
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Death and Dying

Objectives:

1. List and define the five stages of psychosocial behavior through which the patient and his family may learn to accept death.
2. List the responsibilities of the 91C20 in caring for the dying patient.

NOTES

A. Five Stages of Psychosocial Behavior

1. Denial:

2. Anger:

    a.

    b.

3. Bargaining:

4. Depression:

    a.

        (1)

        (2)

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b. Guilt

(1)

(2)

c.

5. Acceptance:

B. Accidental and Sudden Death

1.

2.

a.

b.

C. 91C20's Responsibilities in Dealing With the Dying Patient

1.

2.

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3.

4.

5.

a.

b.

6.

7.

a.

(1)

(2)

(3)

(4)

CPT C.T. Splichal
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NURSING SCIENCE DIVISION   057

Death and Dying

Objectives

1. List and define the five stages of psychosocial behavior through which the patient and his family may learn to accept death.

2. List the responsibilities of the 91C20 in caring for the dying patient.

NOTES

A. Five Stages of Psychosocial Behavior

1. Denial:

2. Anger:

   a.

   b.

3. Bargaining:

4. Depression:

   a.

      (1)

      (2)

b. Guilt

(1)

(2)

c.

5. Acceptance:

B. Accidental and Sudden Death

1.

2.

a.

b.

C. 91C20's Responsibilities in Dealing With the Dying Patient

1.

2.

3.

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4.

5.

a.

b.

6.

7.

a.

(1)

(2)

(3)

(4)

SFC DENNIS B. SHELLEY

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

LP 65-340-021
057

Postmortem Care (2 hours)

COURSES PRESENTED TO: 300-91C20 Clinical Specialist (Primary Technical) Course

PLACE: Classroom

REFERENCES:

TM 8-230, chap 5, pp 5-148 through 5-149
Bregman, pp 172-173
DuGas, pp 356-357
Mass Gen, pp 19-21
Wood, Vol II, Unit 28

STUDY ASSIGNMENT: TM 8-230, chap 5-91, pp 148-149

STUDENT UNIFORM AND EQUIPMENT: Duty

TOOLS, EQUIPMENT, AND MATERIAL:

M 65-340-021-1 and M 65-340-021-2, issued at beginning of hour #1.

PERSONNEL: One primary (91C4H), one secondary (91C4H)

INSTRUCTIONAL AIDS:

Overhead projector; Transparencies (See Annex A); Death Pack (See Annex B); screen, other equipment (See Annex C).

TROOP REQUIREMENTS: Not applicable

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: Lecture/Demonstration

FIRST HOUR

I. INTRODUCTION (3 min)

A. Opening Statement: The procedure for the care of the dead must be in accordance with local policy which must conform to county and state laws. In general, nursing responsibilities include three equally important duties. Those duties are the immediate notification of hospital officials, consideration for all patients in a ward and preparation of the body of the deceased for transportation to the hospital morgue. Tact and sympathy for the patient's family must be shown and all procedures must be conducted in a dignified and serious manner.

B. Objective

Given the proper equipment, and after practice with a manikin, demonstrate the care given to a deceased patient, IAW TM 8-230, chap 5-91, pp 148-149.

C. Class Procedure and Lesson Tie-in:

This is the first hour of instruction of a two hour block of instruction titled "Postmortem Care."

II. EXPLANATION (40 min)

A. Delay Preparation of Body

1. Relatives may wish to view the body

2. Check with the Medical Officer or Nurse to find out EXACTLY what steps are to be followed if a delay is indicated.

B. Initial Care

NOTE: Introduce Annex A-1 with overhead projector at this time.

1. Lower the head rest, leaving one pillow

2. Place body in a natural position, arms at side with palms turned toward the thighs

3. Close the eyelids gently

4. Give mouth care, close the mouth gently

5. Remove all treatment equipment from the patient unit, such as IV stands, oxygen or suction equipment

QUESTION: Why should we place the body in a natural position with the arms at the side with the palms turned toward the thighs during initial care?

ANSWER: After death the muscles stiffen and become rigid, and the body presents a better appearance if positioned shortly after death. The stiffening of the muscles is called "rigor mortis."

QUESTION: If the patient used dentures, but they were not in the patient's mouth at the time of death, what should we do with them?

ANSWER: If possible the dentures should be inserted in the patient's mouth as soon as possible after death because it may become very difficult to insert dentures after rigor mortis begins.

C. Equipment

1. Assemble equipment necessary for final care

a. Bed bath equipment

NOTE: Introduce Annex A-2 with overhead projector at this time

b. Stretcher

c. 2 sheets

d. 2 litter straps

e. Laundry hamper

f. Large paper bag

g. Sign for room door "DO NOT ENTER"

2. Death Pack (Contents)

NOTE: Show class the Death Pack and demonstrate contents (Annex B-1)

a. Paper sack with rubber bands around it

b. ABD pad

c. 4 X 4 cotton wadding

d. 4 safety pins

e. 4 Q-tips

f. 4 tongue blades

g. One roll 3 inch roller gauze

h. One cravat

i. Three death tags, DA Form 3910

- j. Two BAMC F/L 478 (NS) on a DA Form 2496 overprint
- k. Two Standard Form 523-A, (Disposition of Body)
- l. Two Standard Form 523, (Authorization for Autopsy)
- m. BAMC Form 208 (NS), Worksheet for securing information for the State Death Certificate
- n. Three BAMC Form 203, (Inventory of Personal Effects of Deceased Personnel)
- o. Four DA Form 3894 (Hospital Report of Death)

D. Final Care

__NOTE__: Introduce Annex A-3 with overhead projector at this time.

1. Steps 1-5 of Initial Care
    - a. Two individuals are normally assigned these tasks if possible
    - b. If the deceased patient is a female, female personnel should be assigned to perform the care
2. Remove top bedding except for drape sheet
3. Remove pajamas
4. Remove dressings, drainage tubes or catheters. Clean old adhesive tape markings. If the wounds are draining, place minimal clean gauze pads over area
5. Press gently on bladder to expel accumulated urine. Form large pad of cotton and ABD pad and place over rectal area to absorb feces and urine which will be expelled as sphincter muscles relax. Hold pad in place with bandage T-binder
6. Bathe body gently
7. Prop sagging jaw with folded ABD pads (padded well with cotton)
8. Pad ankles with cotton and tie together with roller gauze

9. Death tags (must be signed by medical officer)

    a. Tie one to right great toe

    b. Tie one to left wrist

    c. Third tag will be tied to outside of sheet later

10. Roll body to side of bed. While assistant supports it, place one clean sheet diagonally under the body

11. Roll the body back to the center of the sheet

12. Fold the upper corner of the sheet loosely over the head and face with the lower corner over the feet. Secure the arms at the side, as the right and left corners of the sheet are brought over to complete the wrapping. Fasten the sheets with safety pins.

13. Fasten the third death tag to the outside of the sheet. If the dentures could not be replaced in the mouth, wrap them in gauze, identify and pin the dentures next to the tag

14. Lift the wrapped body to the stretcher, using the bottom sheet for lifting. Fasten the litter straps at the chest and just above the knees, avoiding any pressure. Cover the body with a sheet

15. Before moving the body from the preparation room, obtain the clinical records which accompany the body to the morgue and notify the morgue attendant by telephone. If the elevator is used, signal for it and hold it at the required floor. Avoid lobbies and public entrances if possible.

16. Transport the body quietly and with dignity to the morgue. Remain with the body until the lab attendant or morgue attendant has received it and transferred itffrom the stretcher. Turn the records over to the morgue attendant.

17. Return to the ward with the stretcher and proceed with the terminal cleaning of the patient's unit

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E. Questions From Students

III. SUMMARY (2 min)

A. Review of Main Points

1. Delay

2. Initial Care

3. Equipment

4. Final Care

B. Closing Statement: It is your job as clinical specialists to not only care for the deceased patient, but also to express good judgment, consideration and true kindness for the patient's family. At no other time will your services be more appreciated.

SECOND HOUR

I. INTRODUCTION

A. Opening Statement: In a few short weeks some personnel in this class may be required to perform postmortem care. Knowledge ahead of that time will prepare you to perform the care in an efficient and professional manner.

B. Objective

Given the proper equipment, and after practice with a manikin, demonstrate the care given to a deceased patient, IAW with TM 8-230, chap 5-91, pp 148-149.

C. Class Procedure and Lesson Tie-in:

This is the second hour of a two hour block of instruction titled "Postmortem Care."

II. DEMONSTRATION"

A. Initial Postmortem Care

1. Lower head rest, leaving one pillow

2. Check with Medical Officer or nurse to find out

EXACTLY what steps are to be followed if a delay is indicated

3. Close the eyelids gently

4. Give mouth care, close the mouth gently

5. Remove all treatment equipment from the patient's unit

QUESTION: What is the first step of Initial Care?

ANSWER: The first step in Initial Care is to lower the head rest.

B. Final Postmortem Care

1. Assembly of equipment

   a. Wash basin with warm water

   b. 2 sheets

   c. Portable screen

   d. Laundry hamper

   e. Soap

   f. Soap dish

   g. Nail file

   h. Comb

   i. Bath towel

   j. Hand towel

   k. Wash cloth

   l. Stretcher

   m. 2 litter straps

   n. Large paper bag

   o. Sign for room door "DO NOT ENTER"

   p. Death Pack

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2. Remove top bedding except for drape sheet

3. Remove pajamas

4. Remove dressings, drainage tubes or catheters. Clean old adhesive tape markings. If wounds are draining place minimal clean gauze pads over area.

5. Press gently on bladder to expel accumulated urine. Form large pad of cotton and ABD pad and place over rectal area to absorb feces and urine which will be expelled as sphincter muscles relax. Hold pad in place with bandage T-binder.

6. Bathe body gently

7. Prop sagging jaw with folded ABD pads (padded well with cotton)

8. Pad ankles with cotton and tie together with roller gauze

9. Death tags (must be signed by medical officer)

    a. Tie one to right great toe

    b. Tie one to left wrist

    c. Third tag will be tied to outside of sheet later

10. Roll body to side of bed. While assistant supports the body, place one clean sheet diagonally under the body.

11. Roll the body back to the center of bed

12. Fold the upper corner of the sheet loosely over the head and face with the lower corner over the feet. Secure the arms at the side, as the right and left corners of the sheet are brought over to complete the wrapping. Fasten the sheets with safety pins.

13. Fasten the third death tag to the outside of the sheet. If the dentures could not be replaced in the mouth, wrap them in gauze, identify, and pin the dentures next to the tag.

14. Lift the wrapped body to the stretcher, using the bottom sheet for lifting. Fasten the litter straps at the chest and just above the knees, avoiding any pressure. Cover the body with a sheet.

15. Before moving the body from the preparation room, obtain the clinical records which accompany the body to the morgue and notify the morgue attendant by telephone. If the elevator is used, signal for it and hold it at the required floor. Avoid lobbies and public entrances if possible.

16. Transport the body quietly and with dignity to the morgue. Remain with the body until the lab attendant or morgue attendant has received it and transferred it from the stretcher. Turn the records over to the morgue attendant.

17. Return to the ward with the stretcher and proceed with the terminal cleaning of the patient's unit.

C. Questions From Students

III. SUMMARY

A. Review of Main Points

1. Initial Postmortem Care

2. Final Postmortem Care

B. Closing Statement: It is absolutely necessary that postmortem care be conducted in an efficient and professional manner. How you perform this task when required is an indicator of your skills as a clinical specialist.

ANNEX A

INSTRUCTIONAL AIDS

Transparencies

T 65-340-021-1	Procedures to Perform Initial Care This transparency lists the five steps to perform initial care
T 65-340-021-2	Equipment to Perform Final Care This transparency lists the equipment necessary to perform final care
T 65-340-021-3	Steps in Procedure to Perform Final Care Lists the steps in procedure to perform final care

NOTE: These transparencies are used in Part II.

ANNEX B

INSTRUCTIONAL AID

Death Pack

The actual death pack is opened and the contents shown to the class. As each separate item is shown, it is explained. These death packs are not standardized but serve as excellent examples of the equipment needed for initial and final care.

Equipment contained in Brooke Army Medical Center Death Pack:

Paper sack with rubber bands around it
ABD Pad
4 X 4 Cotton Wadding
4 safety pins
4 Q-tips
4 tongue blades
One roll of 3 inch roller gauze
One cravat
Three Death Tags, DA Form 3910
Two BAMC F/L 478 (NS) on a DA Form 2496 overprint
Two Standard Form 523-A, (Disposition of Body)
Two Standard Form 523, (Authorization for Autopsy)
BAMC Form 208 (NS) Worksheet for securing information for the State
Three BAMC Form 203 (Inventory of Personal Effects of Deceased Personnel)
Four DA Form 3894 (Hospital Report of Death)

NOTE: Death Pack is opened and contents explained in Part II, C. 2.

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ANNEX C

EQUIPMENT LISTING

The following items are required for the first and second hours of the two hour block of instruction titled "Postmortem Care"

A. Equipment for first hour

Death Pack (Contents demonstrated)

B. Equipment for second hour (Contents for demonstration)

1. Wash basin with warm water
2. 2 sheets
3. Portable screen
4. Laundry hamper
5. Soap
6. Soap dish
7. Nail file
8. Comb
9. Bath towel
10. Hand towel
11. Wash cloth
12. Stretcher
13. 2 litter straps
14. Large paper bag
15. Sign for room door "DO NOT ENTER"
16. Death Pack
17. Manikin

18. Hospital bed and patient unit complete with:

   a. pillow

   b. pillow case

   c. 2 sheets

   d. pajama top and bottom

   e. bedside cabinet

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Postmortem Care

The procedure for the care of the dead must be in accordance with local policy which must conform to county and state laws. In general, nursing responsibilities include three equally important duties. These duties are the immediate notification of hospital officials, consideration for all patients in a ward, and preparation of the body of the deceased for transportation to the hospital morgue. Tact and sympathy for the patient's family must be shown, and all procedures must be conducted in a dignified and serious manner.

A patient must be pronounced dead by a medical officer. The body may then be prepared for transportation to the morgue, providing that the family does not wish to view the body immediately. The clinical specialist should always check with the medical officer or nurse to find out exactly what steps should be followed if a delay is indicated.

Initial care may be performed if a delay is not indicated or if it will be a few minutes before the family will arrive to see the deceased patient. Initial care is the immediate care that is provided to the deceased patient. The bed should be lowered until the body is in a supine position with one pillow under the head. The body should be aligned with the bed, and the arms should be placed at the side with the palms turned toward the thighs. It is important to place the body in this position because the body will become stiff as rigor mortis begins. Rigor mortis is the name given to the stiffening of the body due to the cessation of circulation which occurs after death. The eyelids should be gently pulled down to give the deceased patient the appearance of sleeping. This is easily done by applying a very small amount of pressure to the eyelid with one's fingertips. Good mouth care should be given. Many times suction will be necessary for this procedure due to the large amount of secretions often present. If dentures are in the patient's mouth they should be cleaned well. If they are in a bedside stand they should be cleaned and placed in the patient's mouth. Occasionally difficulty may be encountered. Pressure should not be used. If possible, the dentures should be placed in the patient's mouth at this time because after rigor mortis begins it may become more difficult. After mouth care or placement of dentures, the mouth should be gently closed. The appearance of the room is important also. The family may desire to view the body after initial care. Remove equipment that is no longer necessary in the room. Check with the medical officer or nurse regarding the removal of tubes or catheters from the deceased patient. It is best to check with the

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18. Hospital bed and patient unit complete with:

    a. pillow

    b. pillow case

    c. 2 sheets

    d. pajama top and bottom

    e. bedside cabinet

nurse to find out if intravenous therapy lines or nasogastric tubes are to be removed during initial or final care.

It is a time-saving measure to assemble the equipment necessary for final care while waiting for the appropriate time to start final care. Final care usually is given after the family leaves the area. Check with the nurse before actually starting final care. Routine bed bath equipment will be required in addition to a stretcher, two sheets, two litter straps, a laundry hamper, a large paperbag and a sign for the door which should read "DO NOT ENTER."

Another item of equipment necessary for final care is the death pack or morgue pack. It is a pre-assembled package of items used for the final care procedures. This pack is not standardized. This pack contains ABD pads, cotton wadding, safety pins, Q-tips, tongue blades, roller gauze and a cravat. It also contains the forms for the medical officer to fill out for the statement of death, disposal of the body, request for autopsy and for the inventory of the patient's personal affects. These forms will vary from state to state. Identification tags are included to be secured to the body of the deceased patient.

Final care is the preparation of the body for actual transportation to the morgue. Two individuals should be assigned the task of performing final care. One of the individuals should be a senior, experienced clinical specialist. If the deceased patient is a female, female personnel should perform the final care. The preparation of the body during final care is something that must be conducted in private. Other patients, members of the family and other staff personnel should not be present. The first step of final care is initial care unless it has already been performed. Usually initial care will have been conducted earlier. Remove the bedding except for a drape sheet. The body should not be exposed except as necessary, and then it should be covered as much as possibe. Remove the pajamas from the body. At this time remove dressings, drainage tubes, catheters or other items that may have been used. Clean the adhesive tape residue from the skin. If wounds are draining, they should be covered with minimal dressings. If a patient has any unusual devices or medical equipment, check with the nurse. After the equipment has been removed, the body should be bathed gently. Urine and feces are expelled as the sphincter muscles relax. During final care if a small amount of pressure is applied to the abdominal area the accumulated urine will be expelled. Place a pad over the rectal area to absorb feces and urine. The pads may be held in place with a T-binder. Often the jaw will sag. It may be kept in the natural position by using a bandage tied around the jaw and the back of the head. However, it must be padded well with cotton to avoid applying any pressure to the skin which would cause discoloration. At this time cross the ankles, pad well with cotton, and tie with three-inch roller gauze. This keeps the legs in position. Check to make sure the death tags are filled out correctly and signed by the medical officer. Apply one death tag to the right great toe and one to the left wrist. They may be secured with the strings attached to them. The third death tag will be secured to the outer sheet later. Roll the body to the side of the bed. While one person supports it, place a clean sheet diagonally under the body. Roll the body back to the center of the bed. Fold the upper corner of the sheet loosely over the head and face, and then place the lower corner over the feet. Secure the arms at the side, as the right and left corners of the sheet are brought over the top to complete the wrapping. Fasten the sheets with safety pins. Fasten the third death tag to the outside of the sheet. Dentures that could not be placed in the patient's mouth should be wrapped in gauze, identified, and pinned to the sheet next to the third death tag. Lift the body to the stretcher, using the bottom sheet for lifting. The litter straps must be lightly secured just above the knees and over the chest. Undue pressure from tight litter straps can cause discoloration of the skin. Cover the body with a top sheet. Obtain all the clinical records of the patient, and inform the morgue attendant by telephone of the time of arrival at the morgue. The most direct route that does not utilize lobbies or public entrances should be used. If an elevator is used, signal for it and hold it at the required floor. Transport the body quietly and with dignity to the morgue. Remain with the body until the attendant has received it and transferred it from the stretcher. Turn the patient's records over to the morgue attendant. Return to the ward and proceed with the terminal cleaning of the patient's unit.

The first portion of postmortem care is the actual delay of the preparation of a patient if indicated. Initial care is the first steps to make the patient present a peaceful appearance and to prepare for the transportation to the morgue. Assembling the equipment and the actual procedure lead to the completion of final care. Final care is completed when the patient and his records have been transferred to the morgue.

It is your job as clinical specialists to not only care for the deceased patient, but also to express good judgement, consideration, and true kindness for the patient's family. At no other time will your services be more appreciated.

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Postmortem Care

Objective:

Given the proper equipment, and after practice with a manikin, demonstrate the care given to a deceased patient, IAW TM 8-230, chap 5-91, pp 148-149.

NOTES

II.

A. Delay Preparation of the Body

1.

2.

B. Initial Care -- Steps in Procedure

1.

2.

3.

4.

5.

C. Equipment

1. Assemble equipment necessary for final care

a. Bed bath equipment

b. Stretcher

c. Two sheets

- d. Two litter straps
- e. Laundry hamper
- f. Large paperbag
- g. Sign for room door "DO NOT ENTER"

D. Death Pack

E. Final Care Steps in Procedure

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

13.

14.

SP6 Bobby E. Marr

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NURSING SCIENCE DIVISION
Enlisted Instruction Branch

LP 65-340-022
057

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Conduct of Sick Call (1 Hour)

COURSES PRESENTED TO: 300-91C20

PLACE: Classroom

REFERENCES:

AR 40-2
AR 385-40
AR 600-6
TM 8-230, Chap 6, pp 6-9 thru 6-13.

STUDY ASSIGNMENT: None

STUDENT UNIFORM AND EQUIPMENT: Duty uniform

TOOLS, EQUIPMENT, AND MATERIALS: M 65-340-022-1

PERSONNEL: One Instructor

INSTRUCTIONAL AIDS: Overhead projector; issue M 65-340-022-1 at beginning of class; transparencies (See Annex A).

TROOP REQUIREMENTS: None

TRANSPORTATION REQUIREMENTS: None

METHOD OF INSTRUCTION: 1 hour lecture

I. INTRODUCTION (4 min)

A. Opening Statement: As future 91C20's you will at one time or another participate in the conduction of sick call. It is important that you know how to conduct sick call so when you do participate in the conduction it goes smoothly and efficiently. This will help alleviate pain and suffering on the part of the patient.

B. Objectives:

1. State the purpose of sick call according to TM 8-230.
2. Identify the 91C20's responsibility and/or function in treating a patient on sick call.
3. State the purpose of screening procedure utilized in sick call.
4. Given a list, select the appropriate procedures used

when a patient is suspected of having a contagious disease.

5. Given a list, choose the post treatment measures a 91C20 may perform in the conduct of sick call.

6. Identify methods of dealing with an obstreperous patient.

C. Class Procedure and Lesson Tie-In:

This is the only hour of instruction on the conduct of sick call.

II. **EXPLANATION** (38 min)

NOTE: Use Transparency

A. Purpose of sick call

According to TM 8-230 sick call is a daily assembly of sick and injured military duty personnel, held each day at a designated place and time to provide routine medical examination and treatment of sick and injured.

B. The 91C20's responsibility and/or function in treating a patient on sick call.

QUESTION: What are the two responsibilities of a 91C20 in treating a patient on sick call?

ANSWER: 1. Applies advanced nursing care, principles, procedures and techniques in the care and treatment.

2. Assists the medical officer with minor surgical and other therapeutic and diagnostic procedures.

C. Purpose of screening procedures utlized in sick call.

1. Insure patient checks in at front desk with sick call slip.

a. If a patient doesn't have one you should initiate the sick slip.

b. Control of patients while on sick call.

2. Receive patient and records.

a. Takes vital signs (TPR)

b. Observes and questions patients about complaint or condition.

3. Insure notations of observations and complaints are taken.

   a. Note observations and complaints are on SF 600 (Chronological Record of Medical Care)

   b. And any pertinent information needed by medical officer.

4. Areas to be assessed when screening a patient.

   a. Skin: Lips and nailbeds especially

      (1) Temperature - hot or cold to the touch

      (2) Color - flush or pale

      (3) Rash - location

   b. Wounds

      (1) Location

      (2) Condition

   c. Eyes and eyelids

      (1) Pupils - enlarged or pinpointed

      (2) Selera - white, yellow , or red

      (3) Lids - swollen, encrusted

   d. Complaint of pain

      (1) Location

      (2) Start of pain - how and when

      (3) Type - sharp or dull
      mild or severe
      constant or intermittent

   e. State of consciousness

      (1) Alert

(2) Drowsy

(3) Oriented to surroundings

f. Nausea or vomiting

(1) Time when started

(2) If vomited (presence or absence of blood)

(3) Time, content, and source of last meal

g. Temperature, Pulse, Respiration, and BP (Any marked deviation from normal)

(1) Temperature - 98.6 (oral)

(2) Pulse - 60-80

(3) Respirations - 14-20

(4) BP

D. Procedures used when a patient is suspected of having a contagious disease.

1. Segregate patient

2. Follow screening procedure

3. Notify Doctor

E. Post treatment measures a 91C20 may perform in the conduction of sick call.

1. Detains patient until

a. patient has received all necessary instructions

b. received and understands dosage of meds

c. all appointments are made

2. Detains patient for observation

a. after patient has received injectable medication

b. to provide escort if patient is drowsy or unable to continue on his own

F. Methods of dealing with obstreperous patients.

1. Ask politely, patients to control themselves

2. Segregate the obstreperous patient

3. Notify NCOIC of dispensary

QUESTIONS: What are the 3 procedures used when a patient is suspected of having a contagious disease?

ANSWER: 1. Segregate patient

2. Follow screening procedures

3. Notify Doctor

G. Questions From Students

III. SUMMARY (3 min)

A. Review of Main Points

1. State the purpose of sick call

2. Identified 91C20 responsibilities and/or function in treating a patient on sick call

3. Screening procedures utilized in sick call

4. Procedures used when a patient is suspected of having a contagious disease

5. Post treatment measures a 91C20 may perform in the conduct of sick call

6. Methods of dealing with an obstreperous patient

B. Closing Statement: When the material presented in class today is used, sick call should run more smoothly and efficiently for you.

ANNEX A

TRANSPARENCIES

T 65-340-022-1	Purpose of Sick Call
T 65-340-022-2	Responsibility in Treating a Patient on Sick Call
T 65-340-022-3	Screening Procedures
T 65-340-022-4	Continued Screening Procedures
T 65-340-022-5	Patient Suspected of Having a Contagious Disease
T 65-340-022-6	Post Treatment Measures
T 65-340-022-7	Dealing with Obstreperous Patient

SP6 Marr

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Conduct of Sick Call

As future 91C20's you will at one time or another participate in the conduction of sick call. It is important that you know how to conduct sick call so when you do participate it goes smoothly and efficiently. This alleviates pain and suffering on the part of the patient.

According to TM 8-230, sick call is a daily assembly of sick and injured military duty personnel, held each day at a designated place and time to provide routine medical examination and treatment of sick and injured.

The 91C20's responsibilities in treating a patient on sick call are many, but the two major ones are, first that he has to apply advanced nursing care, principles, procedures, and techniques in the care and treatment of patients. Secondly, he assists the medical officer with minor surgical and other therapeutic and diagnostic procedures.

There are 5 screening procedures utilized in sick call. The 91C20 must insure the patient checks in at the front desk with a sick slip. When this is done the 91C20 receives the patient and his records. After receiving the patient he takes the patient's vital signs and records them. He talks to the patient and observes him for symptoms of stress and discomfort. Also he insures that all notations of observations and complaints are taken.

During the screening process there are seven areas to be assessed. The skin, especially the lips and nailbeds, is observed for adequate blood supply. It is important to note if the skin temperature is hot or cold to touch. Determine if the color of the skin is flush, or pale. If any rashes are present the location is important. If wounds are noted the location and condition is very important. With the eyes and eyelids you have to determine if the pupils are enlarged or pinpointed. Also note the sclera and determine if it is white, yellow or red. If the lids are swollen or encrusted this must be noted. If there is pain the patient will state it if it is not already obvious. Be sure to note the location, when the pain started, and the type of pain present. During your observation period you will observe the patient's state of consciousness. By this you will note if the patient is alert, drowsy and if he is oriented to surroundings. You may be able to observe nausea and possibly vomiting. If not, ask the patient if he experiences these symptoms. Make certain to note the time when started, and if there was blood present.Also note the time, content and source of last meal. When recording the TPR make a note of any deviation from normal. The temperature should be 98.6 oral, and pulse 60-80 beats per minute. The respirations should be 14-20 times per minute.

If a patient comes in and you suspect he has a contagious disease, first you need to segregate the patient. Put him in a room away from other patients. Then you follow your regular screening procedures on the patient. After you have screened the patient notify the medical officer.

The post treatment measures a 91C20 may perform in the conduction of sick call are that he detains the patient until patient has received all necessary instructions, makes sure patient understands dosage of all medicines received, and all appointments are made. He also detains patients for observation after injectable medications, and provides an escort for patient if he is drowsy or unable to continue onhhis own.

On sick call you will come in contact with obstreperous patients. These noisy and unruly patients will create a problem when trying to screen patients. In order to handle these you would politely ask the patients to please control themselves, and if that doesn't work you can segregate the specific patient. At this time if the first two methods haven't worked you should notify the NCOIC of the dispensary.

The definition of sick call and purpose have been covered. The 91C20's responsibilities and screening procedures have been covered. Areas to be observed and recorded along with procedures used when a patient is suspected of having a contagious disease were covered. Post treatment measures a 91C20 may perform were listed along with methods of dealing with an obstreperous patient.

When the material presented in class today is used, sick call should run smoothly and efficiently for you.

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

M 65-340-022-1
057

Conduct of Sick Call

Objectives:

1. State the purpose of sick call according to TM 8-230.
2. Identify the 91C20's responsibility and/or function in treating a patient on sick call.
3. State the purpose of screening procedures utilized in sick call.
4. Given a list, select the appropriate procedures used when a patient is suspected of having a contagious disease.
5. Given a list, choose the post treatment measures a 91C20 may perform in the conduct of sick call.
6. Identify methods of dealing with an obstreperous patient.

A. Purpose of sick call - According to TM 8-230 sick call is a daily assembly of sick and injured military duty personnel, held each day at a designated place and time to provide routine medical examination and treatment of sick and injured.

B. The 91C20's responsibility and/or function in treating a patient on sick call.

1.

2.

C. Purpose of Screening Procedures Utilized in Sick Call

1.

a.

b.

2. Receive patient and records

a.

b.

3. Insure notations of observations and complaints are taken

a.

b.

4. Areas to be assessed when screening a patient

a.

(1)

(2)

(3)

b. Wounds

(1)

(2)

c. Eyes and eyelids

(1)

(2)

(3)

d. Complaint of pain

(1)

(2)

(3)

e. State of consciousness

(1)

(2)

(3)

f. Nausea or vomiting

(1)

(2)

(3)

g. Temperature, Pulse, Respirations, and B/P

(1)

(2)

(3)

(4)

D. Procedures Used When a Patient is Suspected of Having a Contagious Disease

1.

3.

4.

E. Post Treatment Measures a 91C20 May Perform in the Conduction of Sick Call

1.

   a.

   b.

   c.

2.

   a.

   b.

500

M 65-340-022-1
057

F. Methods of Dealing With Obstreperous Patients

1.

2.

3.

512

501

Conduct of Sick Call

1. State the purpose of sick call according to TM 8-230.

2. Identify the 91C20's responsibility and/or function in treating a patient on sick call.

3. State the purpose of screening procedures utilized in sick call.

4. Given a list, select the appropriate procedures used when a patient is suspected of having a contagious disease.

5. Given a list, choose the post treatment measures a 91C20 may perform in the conduct of sick call,

6. Identify methods of dealing with an obstreperous patient.

A. Purpose of sick call - According to TM 8-230 sick call is a daily assembly of sick and injured military duty personnel, held each day at a designated place and time to provide routine medical examination and treatment of sick and injured.

B. The 91C20's responsibility and/or function in treating a patient on sick call.

1.

2.

C. Purpose of screening porcedures utilized in sick call.

1.

a.

M 65-340-022-1
057

502 b.

2. Receive patient and records.

   a.

   b.

3. Insure notations of observations and complaints are taken.

   a.

   b.

4. Areas to be assessed when screening a patient.

   a.

      (1)

      (2)

      (3)

   b. Wounds

      (1)

      (2)

   c. Eyes and Eyelids

      (1)

      (2)

      (3)

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d. Complaint of Pain

(1)

(2)

(3)

e. State of Consciousness

(1)

(2)

(3)

f. Nausea or Vomiting

(1)

(2)

(3)

g. Temperature, Pulse, Respirations, and B/P

(1)

(2)

(3)

(4)

D. Procedures used when a patient is suspected of having a contagious disease.

1.

2.

3.

E. Post treatment measures a 91C20 may perform in the conduction of sick call.

1.

a.

b.

c.

2.

a.

b.

F. Methods of dealing with obstreperous patients.

1.

2.

3.

SFC Thomas Ryan

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

LP 65-340-023
057

Assisting With the Physical Examination (1 hr)

COURSES PRESENTED TO: 300-91C20 Clinical Specialist (Primary Technical)

PLACE: Classroom

REFERENCES:

AR 40-501, Chapter 10
TM 8-230, Chapter 6, Section I
Wood, Lucille A. Nursing Skills for Allied Health Services, Vol III, Philadelphia; W.B. Saunders Co., 1972.

STUDY ASSIGNMENT: Review TM 8-230, Chap 6, Sect I

STUDENT UNIFORM AND EQUIPMENT: Duty uniform

TOOLS, EQUIPMENT, AND MATERIALS:

Hand out packet, 1 per student at beginning of class to include: SF 88, SF 89; Overhead projector, viewing screen, M 65-340-023-1, one to each student.

PERSONNEL: 1 Instructor

INSTRUCTIONAL AIDS: T 65-340-023-1 through T 65-340-023-4.

TROOP REQUIREMENTS: None

TRANSPORTATION REQUIREMENTS: None

METHOD OF INSTRUCTION: Lecture

I. INTRODUCTION (5 min)

A. Opening Statement; Physical examinations are scheduled in advance with the examining facility. When they are conducted in the dispensary instead of a separate physical examination facility, they are planned for sometime rather than normal sick call hours. Physical examinations may be scheduled for various reasons, re-enlistment, separation from service or medical boards, annual, flight and many more which we will discuss in this lecture. What is being evaluated is the individual state of health. If problems are diagnosed or if they have been resolved, they are brought to the attention of the appropriate medical staff.

B. Objectives:

1. List the types of physical examinations commonly performed in the Ambulatory Care Clinic.

2. Identify specific patient record forms utilized in recording results of a routine physical examination.

3. Given a list, select portions of physical examination that may be the responsibility of the 91C20.

4. Given a list, identify equipment used in performance of a routine physical examination.

5. Given a situation(s), determine whether or not the conduct expected of a 91C20 was displayed and appropriate to the situation.

C. Class Procedure and Lesson Tie-in:

This period relates to future work in ambulatory care setting, doing physicals and conducting sick call.

II. EXPLANATION (35 min)

NOTE: Presentation supported by transparencies

A. Types of Physical Examinations

1. Periodic medical exams

a. Annual or periodic exam

(1) Active duty personnel

(2) Individuals over 40

b. OB/GYN exams

2. Separation

a. Medical Board (Board out of Army)

b. Personnel separating from service

3. Retirement

a. Temporary disability retirement list (T.D.R.L.)

b. Career retirement physical

QUESTION: Who is required to receive a flight physical?

ANSWER: All individuals maintained on flight status.

4. Flight status physical

5. Advancement or promotion

6. Regular Army and OCS applicants

B. Forms utilized in physical exams

1. SF 88 (Report of Medical Examination)

2. SF 89 (Report of Medical History)

3. DD 722 (Individual Health Record)

C. Responsibilities of 91C20 Personnel

1. Vital signs, temperature, pulse, respirations, BP, height and weight

2. Recording in appropriate forms

3. Electrocardiogram

NOTE: May be done in respective clinic

4. Screening and draping patient

5. Venipuncture for serology

NOTE: May be done in laboratory

6. Responsible for conducting other tests

a. Lab tests

b. X-rays

c. Color vision

d. Determination of prescription of glasses and linsometrics

e. Auditory and acuity

NOTE: The 91C20 is responsible for obtaining results of above tests and including them in the physical exam.

QUESTION: Who is responsible for coordinating other tests?

ANSWER: The 91C20 personnel is responsible for coordinating and scheduling tests

D. Equipment used in physical examination

1. BP cuff
2. Stethoscope
3. Thermometers
4. Scale and height measuring rod
5. Otoscope
6. Opthalmoscope
7. Percussion hammer
8. Tuning fork
9. Tongue blades
10. Gooseneck lamp
11. Tourniquet
12. Venipuncture equipment (alcohol/iodine)
13. Gloves
14. Surgical lubricant
15. Routine pelvic (OB/GYN) instruments (Speculum, vaginal swabs, specimen slides, fixation and preservatives)
16. Drapes/sheets
17. Towels

E. Conduct of 91C20 personnel in physical examinations

a. Professional behavior

b. Ethical in performance of duties

F. Questions From Students

III. **SUMMARY** (5 min)

A. Review of Main Points

1. Types of physical exam
2. Records used
3. Areas of responsibilities of 91C20 personnel
4. Equipment needed
5. Conduct of 91C20 personnel

B. Closing Statement: There are many different types of physical exams. They can be used to separate people from the service, to retain individuals in the service, and to check individuals who are temporarily retired. The physical exam provides a means of determining an individual's health and entry into the health care system for care if necessary.

ANNEX A

TRANSPARENCIES

I. T 65-340-023-1 Types of Physical Examinations

- A. Types of Physical Examinations
    - 1. Periodic Medical Exam
        - a. Annual or periodic
            - (1) Active duty personnel
            - (2) Individuals over 40 years of age
        - b. OB/GYN exams
    - 2. Separation
        - a. Medical Board (Board out of Army)
        - b. Personnel separated from service
    - 3. Retirement
        - a. Temporary disability retirement list (T.D.R.L.)
        - b. Career Retirement Physical
    - 4. Flight Physical (safety)
    - 5. Advancement or Promotion
    - 6. Regular Army and Officers Candidate School applicants

II. T 65-340-023-2 Forms Utilized in Physical Examinations Responsibilities of 91C20 Personnel Assisting With the Physical Examination

- B. Forms Utilized in Physical Exams
    - 1. Standard Form 88 (Report of Medical Examination)
    - 2. Standard Form 89 (Report of Medical History)
    - 3. DD Form 722 (Individual Health Record)
- C. Responsibilities of the 91C20 Personnel
    - 1. Vital Signs: Temperature, pulse, respirations, B/P, height and weight

2. Recording in appropriate forms

3. Electrocardiogram

4. Screening and draping

5. Venipuncture

III. T 65-340-023-3 Responsibilities for coordinating other tests equipment utilized in physical exam

6. Responsibilities for coordinating other tests

   a. Lab tests

   b. X-rays

   c. Color vision

   d. Determination of classes and linsometrics

   e. Auditory and acuity

D. Equipment Utilized in Physical Exam

1. BP Cuff

2. Stethoscope

3. Thermometers

4. Scale and height measuring rod

5. Otoscope

6. Opthalmoscope

7. Percussion hammer

8. Tuning fork

9. Tongue blades

10. Gooseneck lamp

11. Tourniquet

12. Venipuncture equipment
    Alcohol/iodine preps

IV. T 65-340-023-4 Equipment Utilized in Physical Exams (continued)-Conduct of 91C20 Personnel

13. Gloves

14. Lubricant

15. Routine Pelvic (OB/GYN) instruments (Speculum, vaginal swabs, specimen slides, fixation and preservatives)

16. Drapes and sheets

17. Towels

E. Conduct of 91C20 Personnel

1. Professional behavior

2. Ethical in performance of duty

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SFC T. Ryan

ACADEMY OF HEALTH SCIENCES, USA   M 65-340-023
NURSING SCIENCE DIVISION   057

Assisting with the Physical Examination

Objectives:

1. List the types of physical examinations commonly performed in the ambulatory care clinic.
2. Identify specific patient record forms utilized in recording results of a routine physical examination.
3. Given a list select portions of physical examination that may be the responsibility of the 91C20.
4. Given a list, identify equipment used in performing a routine physical examination.
5. Given a situation(s), determine whether or not the conduct of a 91C20 was displayed and appropriate to the situation.

NOTES

A. Types of Physical Examinations

1. Periodic medical examinations

a.

(1)

(2)

b.

2. Separation

a.

b.

3. Retirement

a.

b.

4. Flight status

5. Advancement or Promotion

6. Regular Army and OCS applicants

B. Forms Utilized in Physical Examination

1.

2.

3.'

C. Responsibilities of the 91C20 Personnel

1.

2.

3.

4.

5.

6.

a.

b.

c.

d.

e.

D. Equipment Used in Physical Exam

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

13.

14.

15.

16.

17.

E. Conduct of 91C20 Personnel

1.

2.

SFC T. Ryan

ACADEMY OF HEALTH SCIENCES, USA IM 65-340-023
NURSING SCIENCE DIVISION 057

Assisting With The Physical Examination

Physical examinations are scheduled in advance with the examining facility. When they are conducted in the dispensary instead of a separate physical examination facility, they are planned for some time other than normal sick call hours. Physical examinations may be scheduled for many different reasons such as re-enlistment, separation from service, medical boards, annual, flight and many more which we will discuss in this lecture. What is being evaluated is the individual's state of health. If problems are diagnosed or have been resolved, they are brought to the attention of the appropriate medical staff. Every day we make some type of comparison or evaluation in our daily routine. Physical examinations can be considered a form of comparison. During a physical exam, we are comparing the individual's health status with the established normal values. The physical examination of an individual is an evaluation of that person's state of health.

We mentioned earlier that there are many types of physical exams. We will now discuss some of the common types of physical examinations.

The periodic medical examination is one of the most common and routine type physical. The periodic exam is also referred to as the annual eximination. Active duty personnel are required to have a periodic exam every three years. For individuals forty years of age or older, the periodic exam is mandatory every year. Active duty female personnel are subject to the same regulation. In addition, active duty female personnel are required to have an OB/GYN examination. This exam is commonly referred to as a pelvic examination.

Separation physicals are simply what they imply, release or elimination from active duty. One reason a separation physical is required is for the purpose of a medical board. When determined that the individual has an incapacitating medical condition or disorder, a medical board is convened. A board of officers, usually at least three from the regional command, determines the individual's retention or elimination from the service.

Another type of separation exam is the routine separation of personnel from the service. This is most commonly called the (ETS) Estimated Termination of Service. This exam is usually conducted within 90 days of the individual's ETS, depending on unit policy.

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There are two types of retirement physicals. One is for a temporary retirement and the other for permanent retirement. For purposes of a temporary retirement, a medical board is utilized. It is their decision whether to place an individual on a Temporary Disability Retirement List (TDRL). The individual may be retired temporarily and is then subject to periodic re-examinations and possible recall to active duty. Career retirement exams are similar to routine separation examinations. However, the individual concerned are usually over 40 years of age and may require more follow-up or specialized evaluation.

Flight physicals are important not only to the pilots of aircraft but to all personnel maintained on flight status. The flight physical not only protects flight personnel, but also helps ensure the safety of their passengers.

Advancement and promotion physicals are usually only given to officers considered for promotion to the rank of general. Also all requests for a regular Army commission or officers' candidate school must have a physical examination done specifically for those applicants. If a physical exam has been done for an individual applying for a regular Army commission within a year, that exam is acceptable. However, a statement to that effect must accompany the application.

Some of the forms utilized when dealing with physical examinations will be discussed next. There are three basic forms we are concerned with when dealing with physical exams. The Report of Medical Examination, SF 88 is basically a form used for the recording of the results of the physical examination. The Report of Medical History, SF 89, is a type of questionnaire. This deals with the medical background of the individual, usually from his or her childhood up to the present. One of the most important forms in dealing with the physical examination is the Individual Health Record, DD 722 (Department of Defense). This form is of great importance in evaluating any and all documented medical problems the individual may have encountered during his or her active duty.

The responsbilities of the 91C20 personnel can be considered two-fold, general and specific. One of the general considerations of the 91C20 is the general area in which the exam is to be conducted. Adequate, comfortable and safe surroundings are an important consideration while conducting physical exams. In more specific areas the 91C20 personnel are responsible for obtaining vital signs to include height and weight. A complete set of vital signs should include temperature, pulse, respiration and blood pressure. Recording of this information is the direct responsibility of the 91C20. Of course, information should be recorded in the appropriate blocks or areas of the Medical Examination Report. All routine and prescribed tests are recorded by the 91C20.

Screening and draping of the individual is important in order to afford the individual privacy, thus avoiding unnecessary embarrassment to the patient. This can be accomplished in many ways. The use of screens and drapes may include any equipment from a window shade to a robe or gown. There are many tests the 91C20 is concerned with such as laboratory tests, x-rays, vision tests and hearing tests. They are not only responsible for coordinating these types of tests but obtaining and recording the results of these tests. In many cases the majority of tests are done in the physical examination section. However, more extensive and additional tests are usually conducted in specialized clinics or areas requiring appointments.

There are many pieces of equipment necessary when performing physical examinations. In most exams, routine dispensary or outpatient examining items are used. Rather than compiling a long list of equipment we will only discuss some of the general areas to be examined. Those areas being vital signs, vision testing, hearing and dental portions of the exam. Depending on local policy, drawing of blood for routine serology may be done in the exam section. If this is the case, adequate equipment should be kept on hand. The basic components for drawing blood should be kept in one area. Equipment needed will be a tourniquet, alcohol swabs for preping the area, needles and syringes. In addition, the proper containers for the specimens must be available with labels. Some other type of equipment that may be used is for pelvic exams. The instruments for this exam are usually kept in one tray. Some items being speculums, vaginal swabs, specimen slides, fixative and preservative. All specimens of any type must be marked properly for purposes of identification.

The 91C20 should both think and act in a professional and ethical manner. The question arises, what is professionalism? Defined, professionalism is having a great skill or experience in a particular field or activity. Their judgment should be of a professional level at all times. In the same frame of thought, the 91C20 personnel must perform in an ethical manner. To describe the term ethical, would be to say the actions in accordance with the accepted principles of right and wrong governing the conduct of a 91C20. With both professionalism and ethical mannerism maintained there should be question as to the integrity of any and all 91C20 personnel

We have discussed the 91C20 role in assisting with the physical examination. The topics we have touched on have been some of the more common physical examinations. The records used with physical examinations have been discussed briefly. The 91C20 personnel's responsibilities, both in general and more specific light, have been reviewed. Some of the equipment used in physical examinations were briefly reviewed. Conduct of the 91C20 personnel was discussed. Their level of professional and ethical behavior was discussed. With this basic and fundamental information discussed in this lecture the 91C20 has a greater knowledge of the subject. With this knowledge he or she will be able to assist with a physical examination more thoroughly and professionally.

In conclusion, the basic thought to keep in mind is the purpose of the physical examination. Physical examinations are evaluations of the individual's state of health. The results of these evaluations could determine the individual's retention or retirement from the service. It is also the most efficient means of determining whether an individual needs to enter into the health care system for further care.

SFC T. Ryan
M 65-340-023
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Assisting with the Physical Examination

Objectives:

1. List the types of physical examinations commonly performed in the ambulatory care clinic.
2. Identify specific patient record forms utilized in recording results of a routine physical examination.
3. Given a list select portions of physical examination that may be the responsibility of the 91C20.
4. Given a list, identify equipment used in performing a routine physical examination.
5. Given a situation(s), determine whether or not the conduct of a 91C20 was displayed and appropriate to the situation.

NOTES

A. Types of Physical Examinations

1. Periodic medical examinations

a.

(1)

(2)

b.

2. Separation

a.

b.

3. Retirement

   a.

   b.

4. Flight status

5. Advancement or Promotion

6. Regular Army and OCS applicants

B. Forms Utilized in Physical Examination

1.

2.

3.

C. Responsibilities of the 91C20 Personnel

1.

2.

3.

4.

5.

6.

   a.

   b.

   c.

   d.

   e.

D. Equipment Used in Physical Exam

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

13.

14.

15.

16.

17.

E. Conduct of 91C20 Personnel

1.

2.

CPT C.T.Splichal
ACADEMY OF HEALTH SCIENCES, USA LP 65-340-024
NURSING SCIENCE DIVISION 057

Collection and Storage of Specimens (3 Hours)

COURSES PRESENTED TO: 91C20 Clinical Specialist (Primary Technical)

PLACE: Classroom and Practical Exercise area

REFERENCES:

TM 8-230
Brunner, Lillian S. & Suddarth, Doris S. (1) The Lippincott Manual of Nursing Practice. Philadelphia: J. B. Lippincott Co., 1974.
Massachusetts General Hospital, Department of Nursing. Massachusetts General Hospital Manual of Nursing Procedures. Boston: Little, Brown and Co., 1975.
Wood, Lucile A. (ed). Nursing Skills for Allied Health Sciences. Vol I-III. Philadelphia: W. B. Saunders Co., 1972.

STUDY ASSIGNMENT: Read: M 65-340-024

STUDENT UNIFORM AND EQUIPMENT: M 65-340-024

TOOLS, EQUIPMENT AND MATERIALS: M 65-340-024 issued to class 24 hours prior to class

PERSONNEL: One (1) ANC (primary - 66H), Twelve (12) 91C30 (secondary)

INSTRUCTIONAL AIDS: Transparencies (16) T 65-340-024-1 through 16, overhead projector

TROOP REQUIREMENTS: Not applicable

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: Lecture, Practical Exercise

FIRST HOUR

I. INTRODUCTION (3 min)

A. Opening Statement: Laboratory tests can provide the difference between the correct diagnosis and meaningful treatment or incorrect diagnosis and inadequate treatment. The responsibility of the nursing staff is to collect the correct specimen for the laboratory test that has been ordered. If the nursing staff fails to collect the correct specimen, the patient suffers and the nursing staff's performance borders on medical or professional negligence. In addition to collecting the right specimen in the right container the nursing staff is also responsible for labeling the lab slip correctly, the specimen as being obtained from the right patient. After the procedure is completed the nursing staff is also responsible for transportation of the specimens to the laboratory.

B. Objectives:

1. Given a list of specific tests to be obtained, complete appropriate laboratory slips.
2. Collect routine urine specimen, urine specimen for culture and sensitivity, and urine specimen from a catheter.
3. Given a urine sample, perform a sugar and acetone test and measure accurately the specific gravity.
4. Obtain a sputum specimen for routine culture and sensitivity, acid fast bacillus, and cytology.
5. Collect stool specimen and perform Guaiac test.
6. State precautions for collection and storage of continuous collection of urine and stool.
7. Obtain a throat culture and a wound culture
8. Given a blood test to be drawn, select and label appropriate laboratory slip, select syringe or vaccutainer, needle, specimen tube, and draw the specimen. Destroy needle and syringe after use.

C. Class Procedure and Lesson Tie-in:

This is the first hour of a three-hour block of instruction on collection and storage of laboratory specimens. This hour of lecture will be followed by two hours of practical exercises.

II. EXPLANATION (40 min)

NOTE: Presentation supported by transparencies

A. Laboratory Slips

1. General information and patient identaplate
2. Test ordered
3. Routine or STAT
4. Precautions for handling
    a. Hepatitis
    b. Bacterial
    c. Ova and parasites
5. Specific tests
    a. Chem. I, II, III
        (1) Electrolytes
        (2) Glucose
        (3) Urine (24 hr. collection)
        (4) Iron
        (5) Total iron binding capacity
    b. Hematology I, II
        (1) Complete blood count
        (2) Protime
        (3) PTT
    c. Bacteriology I, II
        (1) Sputum culture and sensitivity
        (2) Urine (clean catch) for culture and sensitivity
        (3) Acid fast bacillus (sputum)
        (4) Fungus (sputum)

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- d. Serology
    - (1) RPR
    - (2) VDRL
- e. Spinal fluid
    - (1) Cell count
    - (2) Glucose
    - (3) Protein
- f. Parasitology
    - (1) Ova and parasites (stool)
    - (2) Guaiac (stool)
- g. Urinalysis
    - (1) Routine
    - (2) Microscopic

B. Collection of Specimens

1. Routine urine collection

    a. check orders

NOTE: It is common for the nurse to verbally request you as 91C's to collect the specimen from the patient.

- b. Assemble equipment
    - (1) Urinal or bedpan
    - (2) Specimen container
    - (3) Specimen label
    - (4) Lab slip
- c. Identify and instruct patient on procedure

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d. Obtain urine specimen

  (1) 120cc volume

  (2) Have patient void into container, if possible

  (3) Provide privacy if necessary

  (4) Avoid contaminating container

e. Reseal container

f. Clean and dry outside of container

g. Attach label and lab slip

h. Have patient wash hands

i. Forward to laboratory

j. Chart in Nursing Notes

NOTE: Early morning specimen is most concentrated revealing any sediment abnormalaties. If urine specimen is not forwarded to lab promptly it will become contaminated by bacteria.

2. Clean catch midstream voided urine

a. Male

  (1) Check orders

  (2) Assemble equipment

    (a) Antiseptic solution: benzalkonium chloride, betadine solution

NOTE: Betadine more effective as an antiseptic but patient may be allergic to betadine. It can also be irritating to membranes if patient has not been circumcised

    (b) Sterile basin

    (c) Cotton balls

    (d) Sterile container

    (e) Container label

(f) Lab slip

(3) Identify and instruct patient on procedure

(4) Provide privacy or allow patient to use restroom

(5) Have patient wash hands

(6) Instruct patient to expose glands

(7) Cleanse meatus with antiseptic solution

(8) Have patient initiate stream of urine

(9) Have patient stop stream

(10) Open sterile container

(11) Collect specimen in sterile container

(12) Complete voiding

(13) Seal container

(14) Have patient wash hands

(15) Clean and dry outside of container

(16) Attach label and lab slip

(17) Forward to laboratory

(18) Record in Nursing Notes

b. Female

(1) Check orders

(2) Assemble equipment

(a) Antiseptic solution: benzalkonium chloride, phisohex

(b) Sterile container

(c) Bed pan

(d) Chux

(e) Container label

(f) Lab slip

(g) Disposable gloves

(3) Identify and instruct patient on procedure

(4) Provide privacy (drape)

(5) Place chux under patient

(6) Wash hands (patient and staff)

(7) Don gloves (patient or staff)

(8) Instruct patient to separate labia to expose meatus (may be done by staff)

(9) Cleanse area with antiseptic solution

(a) If necessary use left hand to keep labia separate

(b) Cleanse from pubis to anus

(c) If phisohex is used rinse with sterile water

NOTE: Some sources recommend rinsing meatus with water when benzalkonium chloride is used

(10) Assist patient to bathroom or place on bedpan

NOTE: If phisohex is used assist patient onto bed pan and rinse with sterile water and dry with sterile cotton balls.

(11) Instruct patient to initiate stream of urine

(12) Have patient stop stream

(13) Open sterile container

(14) Collect specimen

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(15) Reseal container

(16) Complete void: have patient cleanse self

(17) Remove gloves (patient or staff)

(18) Have patient wash hands

(19) Assist back to bed or remove bedpan

(20) Clean and dry container

(21) Wash hands

(22) Attach label and lab slip

(23) Forward to lab

(24) Record in Nursing Notes

3. Collection of urine from indwelling catheter

   a. Check orders

   b. Assemble equipment

      (1) 21 gauge 1 1/2 inch sterile needle

      (2) 20cc sterile syringe

      (3) Betadine prep

      (4) Sterile container

      (5) Small clamp

      (6) Specimen label

      (7) Lab slip

   c. Wash hands

   d. Identify and instruct patient on procedure

   e. Provide privacy

   f. Clamp catheter

      (1) Clamp on soft catheter at junction with drainage bag tube

(2) 15-30 minutes usually sufficient

g. Cleanse catheter with betadine swab (area of insertion of needle)

h. Introduce needle into catheter in area cleaned with betadine

i. Aspirate syringe: withdraw 20cc if available

QUESTION: Why do we take the specimen from the catheter and not the collection bag.

ANSWER: Because the urine collected in the bag may have grown bacteria because the bag is emptied infrequently.

j. Withdraw needle and syringe from catheter

k. Remove clamp

l. Open sterile container

m. Deposit urine in sterile container

NOTE: Be careful not to contaminate container with needle or syringe.

n. Close container

o. Attach label and lab slip

p. Forward to laboratory

q. Dispose of needle and syringe, wash hands

r. Record in Nursing Notes

4. Performing sugar and acetone test on urine

NOTE: A second voided specimen is necessary for correct determination of the patient's diabetic status at that particular time.

QUESTION: Why not just any urine specimen?

ANSWER: Urine collects in the bladder and mixes so it would be impossible to determine the patient's status for that particular time.

a. Clinitest two-drop method for sugar

(1) Have patient void: empty bladder

(2) Have patient drink a couple of glasses of water

(3) Approximately one half hour later collect specimen of urine in clean container

(4) Assemble equipment (usually dirty side of utility room)

(a) Clinitest tablets

(b) Test tube and holder

(c) Eye dropper

(d) Colormetric chart two-drop method

(5) Place two drops of urine in test tube

(6) Rinse dropper

(7) Add ten drops of water to test tube

(8) Drop one clinitest tablet into test tube

(9) Place in holder, watch while reaction takes place (do not shake)

NOTE: This is a chemical reaction and generates a great amount of heat. DO NOT hold the bottom of the test tube.

(10) After reaction complete, wait an additional 15 seconds, gently shake tube

(11) Compare with colormetric chart for two-drop method

(12) Dispose of unused specimen, wash hands

(13) Notify team leader or RN of results

(14) Chart results on appropriate form

b. Clinitest five-drop method for sugar

(1) Have patient void: empty bladder

(2) Have patient drink a couple of glasses of water

(3) Approximately one half hour later collect specimen of urine in clean container

(4) Assemble equipment (usually dirty side of utility room)

    (a) Clinitest tablet

    (b) Test tube and holder

    (c) Eye dropper

    (d) Colormetric chart five-drop method

(5) Place 5 drops of urine in test tube

(6) Rinse dropper

(7) Add ten drops of water to test tube

(8) Drop one clinitest tablet into test tube

(9) Place in holder, watch while reaction takes place (do not shake)

(10) After reaction complete, wait an additional 15 seconds, gently shake tube

(11) Compare with colormetric chart for five-drop method; dispose of unused urine

(12) Wash hands

(13) Notify team leader or RN of results

(14) Chart results on appropriate form

c. Testing urine for ketone bodies (Acetone)

(1) The same urine specimen is used to test for both sugar and acetone

(2) Assemble equipment (usually dirty side of utility room)

    (a) Acetest tablets

    (b) Paper towels

(c) Eye dropper

(d) Colormetric chart for acetone

(3) Place one tablet on the paper towel

(4) Place one drop of urine on tablet

(5) Wait thirty seconds

(6) Compare color of tablet with the colormetric chart; dispose of unused specimen

(7) Wash hands

(8) Report results to team leader or RN

(9) Chart results on appropriate form

5. Measurement of urine specific gravity

a. Check orders

b. Inform patient a random specimen is needed, provide with a container, wash hands after providing container

c. Obtain specimen and allow to cool to room temperature

d. Assemble equipment (usually dirty side of utility room)

(1) Urine cylinder

(2) Urinometer

e. Place cylinder of urinometer on a level surface

f. Fill three quarters full of urine

g. Hold urinometer at top of stem and place in the cylinder

NOTE: Gently spin urinometer so that it remains free of the sides of the cylinder.

h. Read value from bottom of meniscus, dispose of specimen; wash hands

i. Report results to team leader or RN

j. Chart results in Nursing Notes

NOTE: Calibration is measured in units of 0.001 relative to the specific gravity of water 1.000. Cylinder is calibrated from 1.000 to 1.060.

6. Collection of a sputum specimen

a. Check orders

b. Assemble equipment

(1) Sterile container

(2) Container label

(3) Lab slip

c. Wash hands

d. Identify and instruct patient on procedure

e. Assist patient to give a deep cough to raise sputum from bronchi (try to obtain first A.M. specimen)

NOTE: This early A.M. specimen is necessary for Cytology and Acid-Fast Bacillus culture

f. Open sterile container

g. Have patient place specimen in container without his lips touching container

NOTE: Approximately five centimeters of sputum is sufficient

h. Reseal container

i. Attach label and lab slip

j. Forward to lab

k. Inform team leader or RN of any unusual characteristics: color, blood

l. Record in nursing notes: include unusual characteristics

NOTE: If patient is unable to produce sputum at this time instruct patient to notify staff member when specimen is obtained.

7. Collection of a stool specimen
    a. Check orders
    b. Assemble equipment
        (1) Tongue blades
        (2) Plastic or cardboard container
        (3) Bed pan or bedside commode
        (4) Specimen label
        (5) Lab slip
    c. Identify and instruct patient on procedure
    d. Have patient deposit stool
    e. Have patient wash hands

NOTE: Individuals vary in their routine defecation patterns. The routine pattern needs to be known to minimize delay in obtaining specimen.

    f. Collect specimen and place in container
    g. Wash hands
    h. Attach label and lab slip
    i. Forward to lab
    j. Notify team leader or RN: unusual characteristics, color, blood, diarrhea
    k. Chart in Nursing Notes: include unusual characteristic

8. Testing a stool specimen for the presence of occult blood

NOTE: Use same procedure to obtain stool specimen as outlined in collection of a stool specimen

a. Check orders

b. Assemble equipment

- (1) Tongue blades
- (2) Plastic or cardboard container
- (3) Bedpan or bedside commode
- (4) Guaiac reagent
- (5) Guaiac testing cards

c. Obtain stool specimen

d. Open front of guaiac testing card, place small amount of stool on circular identation

e. Place two drops of reagent on stool

f. Close cover

g. Wait 15-30 seconds: open back panel

h. Positive reaction: appearance of blue on paper surrounding or on stool, wash hands

i. Report on appropriate form and in Nursing Notes

NOTE: Observe stool for any signs of gross blood, if present report immediately to nurse.

9. Obtaining a throat culture

a. Check orders

b. Assemble equipment

- (1) Light source
- (2) Tongue depressors
- (3) Culturettes

c. Wash hands

d. Identify and instruct patient on procedure

- e. Position patient: sitting facing you
- f. Adjust light source for maximum illumination of throat
- g. Depress tongue with tongue blade
- h. Remove sterile culturette from tube
- i. Have patient say "Ah", will relax throat muscles and minimize gag reflex
- j. Gently swab right or left tonsillar area using a downward stroke
- k. Remove the culturette quickly, but gently
- l. Use a second culturette and repeat the process opposite the side previously cultured
- m. Remove the culturette quickly, but gently
- n. Attach the label and lab slip
- o. Forward to lab
- p. Report to team leader or RN
- q. Chart in Nursing Notes

10. Obtaining a wound culture

- a. Check orders
- b. Assemble equipment
  - (1) Sterile culture tube with applicators
  - (2) Dressing tray
  - (3) Sterile disposable gloves
  - (4) Antiseptic solution: Betadine
  - (5) Paper bag
  - (6) Specimen label
  - (7) Lab slip

(8) Sterile basin

NOTE: If this procedure is being obtained on a patient in wound isolation you will need to follow isolation procedures.

c. Wash hands

d. Identify and instruct patient on procedure

e. Provide privacy

f. Apply sterile gloves

g. Remove soiled dressing

h. Dispose of soiled dressing in paper bag

i. Remove soiled gloves

j. Establish sterile field: include all bandaging for new sterile dressing, culture tubes, antiseptic solution and swabs

k. Inspect wound

NOTE: Evaluate for degree of healing, presence of open draining area, necrosis, pus or putrid odor

l. Apply sterile gloves

m. Cleanse area around wound with antiseptic solution from inside out

n. Discard swab after one motion

o. Drape wound site

p. Open applicator tube

q. Swab wound with sterile applicator

NOTE: If several areas look suspicious take several cultures

r. Replace applicator in the culture tube

s. Apply sterile dressing

t. Remove gloves

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u. Remove and dispose of soiled items

v. Attach label and lab slip

w. Wash hands

x. Forward to lab

y. Notify team leader or RN

z. Chart procedure in Nursing Notes to include: dressing change, appearance of wound and collection of culture.

11. Obtaining a blood specimen

a. Check orders

b. Assemble equipment

(1) Lab slip

(2) Betadine preps or alcohol preps

QUESTION: Recent studies have shown alcohol to be ineffective as an antiseptic, betadine would be the antiseptic of choice. What factor would cause you to use alcohol instead of betadine as an antiseptic?

ANSWER: If the individual is allergic to iodine(betadine) preparations

(3) Vaccutainer holder

(4) Vaccutainer needles

(a) Single draw

(b) Multidraw

(5) Vacuum tubes

(6) Tourniquet

(7) Chux pad

c. Identify and instruct patient on procedure

(1) Wash hands

d. Place chux pad under arm to protect bedding

e. Apply tourniquet

   (1) Place 3-4 inches above intended site of needle insertion

   (2) Occlude venous circulation only, not arterial, check for pulse

f. Evaluate veins

   (1) DO NOT use arm in which intravenous fluids are being administered

   (2) Promote venous distention

      (a) Have patient clench and unclench fist

      (b) Have patient lower arm

      (c) Warm compresses to arm

g. Cleanse skin with antiseptic at site of proposed insertion

h. Insert needle

   (1) Hold skin taut to anchor vein

   (2) 15-30° angle insertion

   (3) Bevel up

i. After needle is inserted gently puncture rubber stopper of vacuum tube

NOTE: Blood flow is immediate if needle is in vein.

j. Release tourniquet when collecting tubes are filled

k. Place antiseptic prep lightly over puncture site

l. Withdraw needle quickly

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m. Apply firm pressure with antiseptic prep over puncture site for 30-60 seconds. Have patient elevate arm

n. Remove vacuum tube from holder and agitate slightly if tube contains any additive.

NOTE: Specifically tubes used for glucose and protime.

o. Attach label and lab slip to specimen

p. Forward to lab

q. Destroy used or contaminated needles

r. Clean holder and return to storage area, wash hands

s. Notify team leader or RN

t. Chart in Nursing Notes

C. Precautions for Collection and Storage of Continuous Collection of Urine and Stool

1. Precautions for urine

a. Stored on ice

b. Special containers: opague glass

c. Preservatives: caustic

2. Precautions for stool

a. Covered container

b. Placed in isolated area

D. Questions From Students

III. SUMMARY (2 min)

A. Review of Main Points

1. Completion of lab slips

2. Collection of specimens

3. Precautions for collection and storage of continuous collection of urine and stool

B. Closing Statement: The collection of specimens can be complex; but for valid results that benefit the patient and medical staff, collection of these specimens have to be specific, step by step. Our responsibilities are to the patient to prevent needless suffering or embarrassment and to promote his return to a productive life.

SECOND and THIRD HOURS

I. INTRODUCTION (3 min)

A. Opening Statement: In the previous hour we discussed collection of specimens from filling out lab slips, collecting the specimen to forwarding the specimen to the laboratory. In this hour and the one following we are going to collect these specimens, using the format discussed.

B. Objectives:

1. Given a list of specific tests to be obtained, complete appropriate laboratory slips.
2. Collect routine urine specimen, urine specimen for culture and sensitivity and urine specimen from catheter.
3. Given a urine sample, perform a sugar and acetone test and measure accurately the specific gravity.
4. Obtain a sputum specimen for routine culture and sensitivity, acid-fast bacillus, and cytology.
5. Collect stool specimen and perform Guaiac test.
6. Obtain a throat culture and a wound culture.
7. Given a blood test to be drawn, select and label appropriate laboratory slip; select syringe or vaccutainer, needle, specimen tube, and draw the specimen. Destroy needle and syringe after use.

C. Class Procedure and Lesson Tie-in:

These two hours are the final hours of instruction in the collection and storage of laboratory specimens. These hours will be of practical exercise.

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II. APPLICATION (90 min)

A. Arrangement of Students

NOTE: Refer to Annex A

1. Students will be divided into four groups of 24.
2. Additional students above the 96 will join one of the groups in pairs, to keep the groups even
3. For the sake of modesty and privacy females need to be in one group
4. When necessary within the groups of 24 students will pair off for certain procedures

B. Directions to Students

1. Students will complete all stations
2. If unable to complete laboratory procedure, will proceed to next station and return to incompleted laboratory procedure when other students are on break.

C. Directions to Instructors

NOTE: Refer to Annexes B, C, and D.

1. Set up PE area to include supplies needed for various stations.
2. Provide guidance to students, but will not complete tests for students.
3. Female instructors will be needed to work PE area number 1 when female students are at that station.

D. General Plan for Conducting Practical Exercise

1. Groups will proceed from station to station in alloted tiem, 30 minutes for each PE station.

NOTE: Refer to Annex C

2. Each student will complete procedures within each PE station

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NOTE: Refer to Annexes E,F, G, and H

3. Students who have not completed procedures will return to that PE station to complete procedure.

4. In station number 2, students will complete collection of sputum and throat culture before proceeding to wound culture.

5. In station number 1, students will complete collection of routine urinalysis and clean catch urine before proceeding to collection of specimen from catheters.

6. Females will simulate collection of clean catch urines on manikins.

III. CRITIQUE (5 min)

A. Questions From Students

B. Review of Main Points

1. Correctly label specimens and fill out lab slips

2. Collection of various specimens including urine, blood, throat, sputum and wound cultures

3. Performing specific procedures including testing urine for sugar and acetone, specific gravity and stool for occult blood

C. Closing Statement: Collection of specimens for diagnostic procedures is an important function of the nursing staff. In this two hour period of instruction you have learned the basic procedures for collecting specimens. Practice will increase your proficiency, when you are at your Phase II stations you will have the practice to increase your proficiency.

ANNEX A
INSTRUCTIONAL AIDS

Transparencies

T 65-340-024-1	Lab slips
T 65-340-024-2	Routine urine collection
T 65-340-024-3	Clean Catch: Male
T 65-340-024-4	Clean Catch: Female
T 65-340-024-5	Urine from indwelling catheter
T 65-340-024-6	Sugar and Acetone two-drop method
T 65-340-024-7	Sugar and Acetone five-drop method
T 65-340-024-8	Acetone
T 65-340-024-9	Urine specific gravity
T 65-340-024-10	Sputum specimen
T 65-340-024-11	Stool specimen
T 65-340-024-12	Stool occult blood
T 65-340-024-13	Throat culture
T 65-340-024-14	Wound culture
T 65-340-024-15	Blood specimen
T 65-340-024-16	Precautions for collection and storage

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LP 65-346-024
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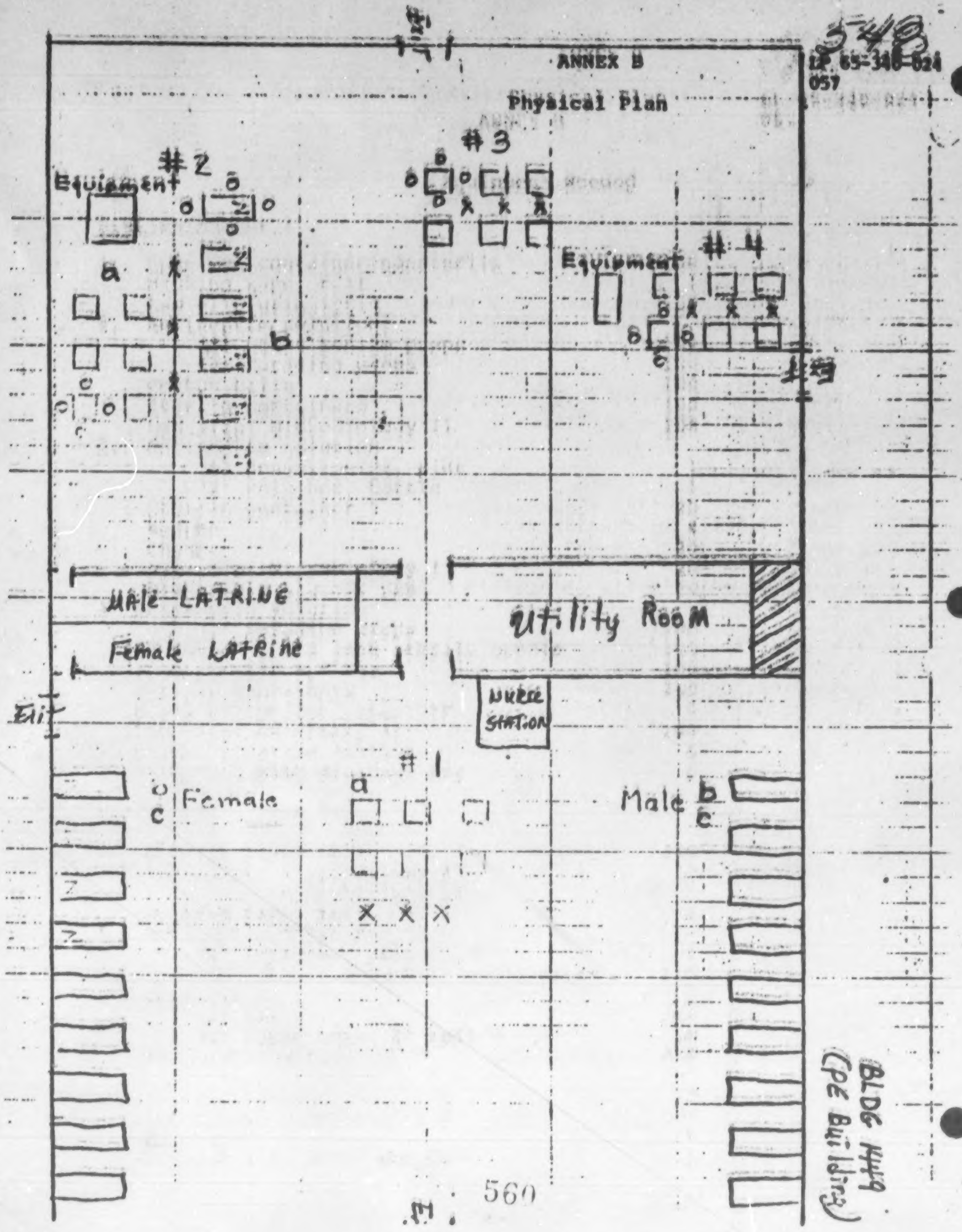
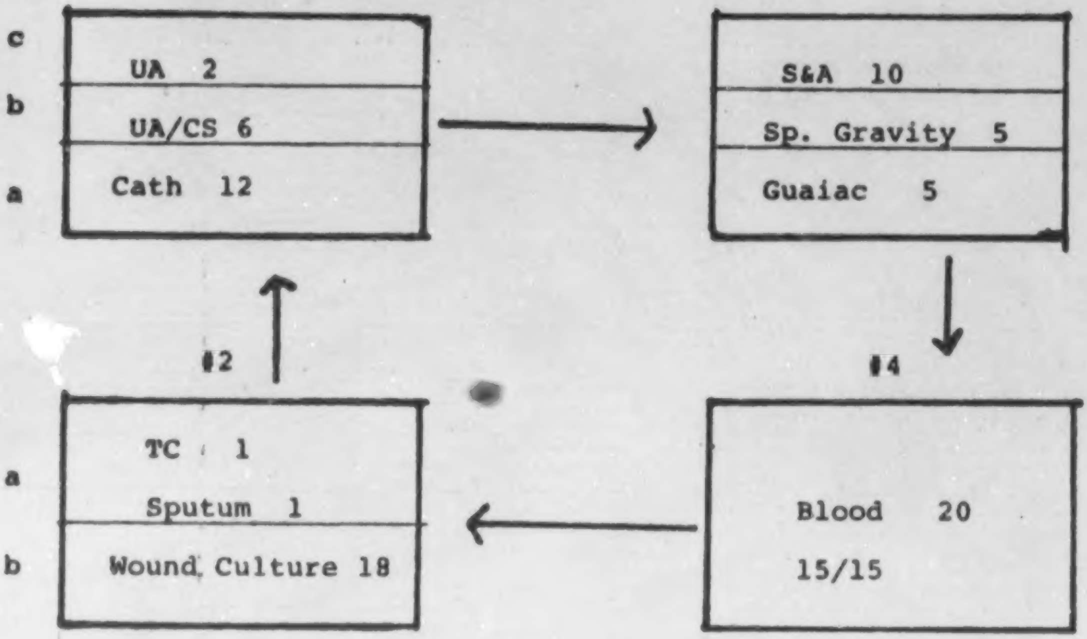
ANNEX B

Physical Plan



#1
#2
#3
#4
Equipment
Equipment
a
b
c
MALE LATRINE
Female LATRINE
Utility ROOM
NURSE STATION
Exit
Female
Male
BLDG #449 (PE Building)

Description of Practical Exercise


c
UA 2
b
UA/CS 6
a
Cath 12
S&A 10
Sp. Gravity 5
Guaiac 5
#2
#4
a
TC 1
Sputum 1
b
Wound Culture 18
Blood 20
15/15

ANNEX D

Equipment Needed

Station Number 1

1.	Specimen containers nonsterile	100
	Masking tape, roll	1
	Lab slip:urinalysis	100
2.	Antiseptic solution,	
	(1) Benzalkonium preps	100
	(2) Betadine preps	100
	Cotton balls	100
	Sterile containers	100
	Lab slip: Microbiology II	100
3.	Antiseptic solution	
	(1) Benzalkonium, pint	1
	(2) Phisohex, bottle	1
	Sterile container	20
	Bedpan	4
	Chuxes	20
	Lab slip: Microbiology I	20
	Disposable gloves, prs	20
4.	Antiseptic solution	
	(1) Betadine preps	100
	21 gauge 1 1/2 inch sterile needle	100
	20cc sterile syringe	100
	Sterile containers	100
	Small clamps (for catheter)	6
	Lab slip: Chemistry II	100
	Catheterization manikin	6
	Catheters with drainage bag	6

Station II (Annex G)

1.	Sterile containers	100
	Lab slips: Microbiology I	50
	Microbiology II	50
	Masking tape, roll	1
2.	Antiseptic solution	
	(1) Betadine, pint	1
	Sterile culture tubes with applicators	100
	Dressing Tray	6
	(1) 4x4's	106
	(2) Paper tape, 1" roll	10
	Disposable gloves	200
	Paper bags	100
	Sterile basins	12
	Lab slips: Microbiology I	100
	Manikins	6
	Moulage Kit, small wounds	6

Station II (Cont)

3.	Tongue blades	100
	Culturettes	100
	Lab slips: Microbiology I	100

Station III(Annex F)

1.	Clinitest tablets, bottles	2
	Test tubes	10
	Test tube holders	10
	Eye droppers	10
	Clinitest color chart	
	(1) 5-drop method	2
	(2) 2-drop method	2
	Urine	
	(1) simulated for positive reaction	100 cc
	(2) routine	
2.	Acitest color charts	2
	Urine	
	(1) simulated for positive reaction	100 cc
	(2) routine	
3.	Urinometers	4
	Urine cylinders	4
	Urine: routine	
4.	Tongue blades	100
	Guaiac reagent, bottles	2
	Guaiac testing cards	200
	Stool: with blood, container	1

Station IV Annex H)

1.	Lab slip: Hematology I	100
	Betadine preps	100
	Alcohol preps	100
	Cotton balls	100
	Vaccutainer holders	24
	Vaccutainer needles	200
	Vacuum tubes	120
	Tourniquets	12
	Chux pads	100

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Collection and Storage of Specimens

Laboratory tests may provide the difference between the correct diagnosis and effective therapeutic treatment or incorrect diagnosis and inadequate treatment. Laboratory personnel routinely draw or obtain blood specimens in a hospital on a daily basis. Patients who are outpatients or ambulatory may be allowed to have their specimens collected in the laboratory.

Frequently specimens are required at specific times. Most common would be the new order or a physician requiring a specimen be drawn immediately from a new patient.

The responsibility of the nursing staff is to collect the specimens from the correct patient, in the correct manner, the correct container, correct time, and the correct specimen source. Failure to follow the correct steps in any given procedure may invalidate the procedure,providing poor assistance to the physician or nursing staff in reaching a diagnosis, alleviating pain or providing concerned nursing care.

In addition to collecting the correct specimen, in the correct container at the correct time and from the correct patient, the nursing staff is tasked with obtaining and completing the correct laboratory slips with the required information. Nursing and laboratory personnel will establish routines for the collection of labatory specimens, starting with the recognition that a new order has been written.

The next step is for the nursing personnel or ward clerk to complete the laboratory request slip. Certain information is required on the laboratory slip. The patient's name, status, such as active duty, retired, or dependent, social security number, hospital number, and ward number. If the patient is an inpatient in the hospital this information is found on the patient's Identaplate. If the individual is an outpatient the patient's medical card. The clinic to which the results are to be sent must be written on the slip. The test ordered will need to be marked on the lab slip. Recognition of tests and the lab slip on which they are found is learned with practice. Some tests will not be found on any of the standard lab slips, when this occurs then a miscellaneous lab slip may be used.

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Certain procedures will require the specimen to be obtained before meals, after fasting, in the morning or immediately, if ordered by the physician. For immediate results the laboratory slip should be marked with the word STAT. Laboratory work required for surgery may be marked PRE-OP so the tests will be completed and the results on the patient's chart withing twenty-four hours. Some tests will routinely be performed in the early morning, after fasting, before meals or medications. Examples of this would be electrolytes, serum sodium, potassium, chloride and carbon dioxide. Serum glucose may be an early morning fasting specimen or more specifically, before or after meals or when an individual has an insulin reaction. The variety of times and situations is almost endless depending upon the necessity or urgency of the tests results.

With certain disease processes or if the patient is suspected of having hepatitis, precautions in the handling and storage of the specimen is required. These precautions are designed to prevent the possible spread or contamination of individuals including the nursing staff, laboratory personnel and other patients. Hepatitis is spread by the patient's blood or body secretions including nasal droplets, saliva, and stool. Precautions are designed to prevent the spread of the virus, for example, wrapping a stool specimen in an impervious plastic container followed by good hand washing technique. Blood specimens and all other specimens are marked with words "Contaminated Hepatitis," to alert the laboratory personnel to be extra careful when handling that particular specimen. Special handling and disposal of the equipment used to collect the specimen is required.

Handling specimens contaminated with bacteria or ova and parasites require the same precautions. In addition, the need exists to minimize contamination of the specimen from other sources which may provide an incorrect bacterial isolation and count, resulting in incorrect diagnosis and treatment.

The collection of specimens will vary with the specimen source. Routinely the individual collecting the specimen will check the written order, complete the laboratory slip, assemble equipment, identify and instruct the patient on the procedure. Patients who are physically and mentally able, may collect the specimen and deliver it to the nurse who requested the specimen. Many specimens require the nurse to actually obtain the specimen. Every specimen is then labeled and delivered to the laboratory with the proper request form.

There are additional precautions in the collection and handling of specimens. These precautions are directed not toward the prevention of the spread of various bacteria and viruses, but to

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prevent the deterioration of the specimen due to these elements, plus environmental factors such as temperature and light. Some of these precautions are also designed to minimize patient embarrassment due to the nature of some of the specimens collected.

Continuous collection of urine, normally collected over a 12 or 24-hour period, may require the specimen to be stored on ice to prevent an increase in bacteria. Bacteria may multiply in such numbers as to falsify the test results by reacting with chemical compounds. The increase of the bacteria may cause the patient to be inappropriately treated with antibiotics. This can happen to any urine specimen if allowed to stand at room temperature for as little as four hours.

Other precautions, such as opaque containers and the addition of acid in the collection bottles may be required to prevent the same environmental factors from affecting the elements studied by the laboratory.

The seventy-two hours collection of stool for various purposes requires a closed impervious plastic container, which is normally weighted and marked prior to the beginning of the collection procedure. This container is stored in an isolated region for sanitary purposes as well as minimizing the individuals embarrassment.

The collection of specimens may be complex, but is an important part in acquiring valid information that is beneficial to the patient and medical staff. Our responsibility is to the patient to prevent needless suffering or embarrassment and to promote his return to a better state of health.

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Collection and Storage of Specimens

Objectives:

1. Given a list of specific tests to be obtained complete appropriate laboratory slips
2. Collect routine urine specimen, urine specimen for culture and sensitivity, and urine specimen from a catheter.
3. Given a urine sample, perform a sugar and acetone test and measure accurately the specific gravity.
4. Obtain a sputum specimen for routine culture and sensitivity, acid fast bacillus, and cytology.
5. Collect stool specimen and perform guaiac test.
6. State precautions for collection and storage of continuous collection of urine and stool
7. Obtain a throat culture and a wound culture
8. Given a blood test to be drawn select and label appropriate laboratory slip, select syringe or vaccutainer, needle, specimen tube, and draw the specimen. Destroy needle and syringe after use.

NOTES

A. Laboratory Slips

1.

2.

3.

4. **Precautions for handling**
   - a.
   - b.
   - c.

5. **Specific tests**
   - a. **Chem. I, II, III**
     - (1)
     - (2)
     - (3)
     - (4)
     - (5)
   - b. **Hematology I, II**
     - (1)
     - (2)
     - (3)
   - c. **Bacteriology I, II**
     - (1)
     - (2)

(3)

(4)

d. Serology

(1)

(2)

e. Spinal Fluid

(1)

(2)

(3)

f. Parasitology

(1)

(2)

g. Urinalysis

(1)

(2)

B. Collection of Specimens

1. Routine urine collection

a. Check order

b. Assemble equipment

        (1) Urinal or bedpan
        (2) Specimen container
        (3) Specimen label
        (4) Lab slip

    c. Identify and instruct patient on procedure
    d. Obtain urine specimen
        (1) 120cc volume
        (2) Have patient void into container if possible
        (3) Provide privacy if necessary
        (4) Avoid contaminating container
    e. Reseal container
    f. Clean and dry outside of container
    g. Attach label and lab slip
    h. Have patient wash hands
    i. Forward to laboratory
    j. Chart in nursing notes

2. Clean catch midstream voided urine
    a. Male
        (1) Check order
        (2) Assemble equipment
            (a) Antiseptic solution
            (b) Sterile basin
            (c) Cotton balls
            (d) Sterile container

    - (e) Container label
    - (f) Lab slip
- (3) Identify and instruct patient on procedure
- (4) Provide privacy or allow patient to use restroom
- (5) Have patient wash hands
- (6) Instruct patient to expose glands
- (7) Cleanse meatus with antiseptic solution
- (8) Have patient initiate stream of urine
- (9) Have patient stop stream
- (10) Open sterile container
- (11) Collect specimen in sterile container
- (12) Complete voiding
- (13) Seal container
- (14) Have patient wash hands
- (15) Clean and dry outside of container
- (16) Attach label and lab slip
- (17) Forward to laboratory
- (18) Record in Nursing Notes

b. Female

- (1) Check order
- (2) Assemble equipment
    - (a) Antiseptic solution
    - (b) Sterile container
    - (c) Bed pan

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(d) Chux

(e) Container label

(f) Lab slip

(g) Disposable gloves

(3) Identify and instruct patient on procedure

(4) Provide privacy (drape)

(5) Place chux under patient

(6) Wash hands (patient and staff)

(7) Apply gloves (patient or staff)

(8) Instruct patient to separate labia to expose meatus (may be done by staff)

(9) Cleanse area with antiseptic solution

(a) Use left hand to keep labia separate

(b) Cleanse from pubis to anus

(10) Assist patient to bathroom or place on bedpan

(11) Instruct patient to initiate stream of urine

(12) Have patient stop stream

(13) Open sterile container

(14) Collect specimen

(15) Reseal container

(16) Complete void: have patient cleanse self

(17) Remove gloves (patient or staff)

(18) Have patient wash hands

(19) Assist back to bed or remove bedpan

(20) Clean and dry container

(21) Wash hands 572

(22) Attach label and lab slip

(23) Forward to lab

(24) Record in Nursing Notes

3. Collection of urine from indwelling catheter

   a. Check order

   b. Assemble equipment

      (1) Twenty-one gauge 1 1/2 inch sterile needle

      (2) 20cc sterile syringe

      (3) Betadine prep

      (4) Sterile container

      (5) Small clamp

      (6) Specimen label

      (7) Lab slip

   c. Wash hands

   d. Identify and instruct patient on procedure

   e. Provide privacy

   f. Clamp catheter

      (1) Clamp on soft catheter at junction with drainage bag tube

      (2) 15-30 minutes sufficient

   g. Cleanse catheter with betadine swab (area of insertion of needles)

   h. Introduce needle into catheter in area cleansed with betadine

   i. Aspirate syringe: withdraw 20cc if available

   j. Withdraw needle and syringe from catheter

   k. Remove clamp

- l. Open sterile container
- m. Deposit urine in sterile container
- n. Close container
- o. Attach label and lab slip
- p. Forward to laboratory
- q. Dispose of needle and syringe, wash hands
- r. Record in Nursing notes

4. Perform sugar and acetone test on urine

- a. Two-drop method for sugar
    - (1) Have patient void: empty bladder
    - (2) Have patient drink a couple of glasses of water
    - (3) Approximately one half hour later collect specimen of urine in clean container
    - (4) Assemble equipment (usually dirty side of utility room)
        - (a) Clinitest tablets
        - (b) Test tube and holder
        - (c) Eye dropper
        - (d) Colormetric chart two-drop method
    - (5) Place two drops of urine in test tube
    - (6) Rinse dropper
    - (7) Add ten drops of water to test tube
    - (8) Drop one clinitest tablet into test tube
    - (9) Place in holder, watch while reaction takes place (do not shake)
    - (10) After reaction complete, wait an additional 15 seconds, gently shake tube

(11) Compare with colormetric chart for two-drop method

(12) Wash hands, dispose of remaining specimen

(13) Notify team leader or RN of results

(14) Chart results on appropriate form

b. Clinitest five-drop method for sugar

(1) Have patient void: empty bladder

(2) Have patient drink a couple of glasses of water

(3) Approximately one half hour later collect specimen of urine in clean container

(4) Assemble equipment (usually dirty side of utility room)

  (a) Clinitest tablets

  (b) Test tube and holder

  (c) Eye dropper

  (d) Colormetric chart five-method

(5) Place 5 drops of urine in test tube

(6) Rinse dropper

(7) Add ten drops of water to test tube

(8) Drop one clinitest tablet in test tube

(9) Place in holder, watch while reaction takes place (do not shake)

(10) After reaction complete wait an additional 15 seconds, gently shake tube

(11) Compare with colormetric chart for 5-drop method

(12) Wash hands and dispose of remaining specimen

(13) Notify team leader or RN of results

(14) Chart results on appropriate form

c. Testing urine for ketone bodies (Acetone)

(1) The same urine specimen is used to test for both sugar and acetone

(2) Assemble equipment (usually dirty side of the utility room)

(a) Acetest tablets

(b) Paper towel

(c) Eye dropper

(d) Colormetric chart for acetone

(3) Place one tablet on the paper towel

(4) Place one drop of urine on tablet

(5) Wait thirty seconds

(6) Compare color of tablet with the colormetric chart

(7) Wash hands and dispose of remaining specimen

(8) Report results to team leader or RN

(9) Chart results on appropriate form

5. Measurement of urine specific gravity

a. Check order

b. Inform patient a random specimen is needed, provide with container, wash hands after providing specimen

c. Obtain specimen and allow to cool to room temperature

d. Assemble equipment (usually dirty side of utility room

(1) Urine cylinder

(2) Urinometer

e. Place cylinder of urinometer on a level surface

f. Fill three quarters full or urine

g. Hold urinometer at top of stem and place in the cylinder

h. Read value from bottom of meniscus

i. Wash hands

j. Report results to team leader or RN

k. Chart results in Nursing Notes

6. Collection of sputum specimen

a. Check order

b. Assemble equipment

(1) Sterile container

(2) Container label

(3) Lab slip

c. Wash hands

d. Identify and instruct patient on procedure

e. Assist patient to give a deep cought to raise sputum from bronchi (first A.M. specimen is needed for Cytology and Acid-fast Bacillus)

f. Open sterile container

g. Have patient place specimen in container without his lips touching container

h. Reseal container

i. Attach label and lab slip

j. Forward to lab

k. Inform team leader or RN of any unusual characteristics: color, blood

l. Record in Nursing Notes: include unusual characteristics

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7. Collection of stool specimen

   a. Check order

   b. Assemble equipment

      (1) Tongue blades

      (2) Plastic or cardboard container

      (3) Bedpan or bedside commode

      (4) Specimen label

      (5) Lab slip

   c. Identify and instruct patient on procedure

   d. Have patient deposit stool and wash hands

   e. Collect specimen and place in container

   f. Wash hands

   g. Attach label and lab slip

   h. Forward to lab

   i. Notify team leader or RN, any unusual characteristics: color, blood, diarrhea

   j. Chart in Nursing Notes: include unusual characteristics

8. Testing a stool specimen for the presence of occult blood

   a. Check order

   b. Assemble equipment

      (1) Tongue blades

      (2) Plastic or cardboard container

      (3) Bedpan or bedside commode

      (4) Guaiac reagent

      (5) Guaiac testing cards

   c. Obtain stool specimen

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- d. Open front of guaiac testing card
- e. Place small amount of stool on circular identation
- f. Place two drops of reagent on stool
- g. Close cover
- h. Wait 15-30 seconds, open back panel
- i. Positive reaction: appearance of blue on paper surrounding or on stool
- j. Wash hands
- k. Report results to nurse. Record on appropriate form and in Nursing Notes

9. Obtaining a throat culture
   - a. Check order
   - b. Assemble equipment
     - (1) Light source
     - (2) Tongue depressors
     - (3) Culturette
     - (4) Specimen labels
     - (5) Lab slips
   - c. Wash hands
   - d. Identify and instruct patient on procedure
   - e. Position patient: sitting facing you
   - f. Adjust light source for maximum illumination of throat
   - g. Depress tongue with tongue blade
   - h. Remove sterile culturette from tube
   - i. Have patient say "Ah"

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j. Gently swab soft palate and right or left tonsillar area using a downward stroke, swab any area that is suspicious

k. Remove the culturette quickly, but gently

l. Attach labels and lab slips

m. Forward to lab

n. Report to team leader or RN

o. Chart in Nursing Notes

10. Obtaining a wound culture

a. Check order

b. Assemble equipment

(1) Sterile culture tube with applicators

c. Wash hands

d. Identify and instruct patient

e. Provide privacy

f. Inspect wound

g. Open applicator tube

h. Swab wound with sterile applicator

i. Replace applicator in the culture tube

j. Attach label and lab slip

k. Wash hands

l. Forward to lab

m. Notify team leader or RN

n. Chart procedure in Nursing Notes to include: appearance of wound and collection of culture

11. Obtaining a blood specimen

    a. Check order

    b. Assemble equipment

        (1) Lab slip

        (2) Betadine or alcohol preps

        (3) Vaccutainer holder

        (4) Vaccutainer needles

        (5) Vacuum tubes

        (6) Tourniquet

        (7) Chux pad

    c. Identify and instruct patient on procedure

    d. Place chux pad under arm to protect bedding

    e. Apply tourniquet

        (1) Place 3-4 inches above intended site of needle insertion

        (2) Occlude venous circulation only, not arterial, check for pulse

    f. Evaluate veins

        (1) Do not use arm in which intravenous fluids are being administered

        (2) Promote venous distention

            (a) Have patient clench and unclench fist

            (b) Have patient lower arm

            (c) Warm compresses to arm

    g. Cleanse skin with antiseptic at site of proposed insertion

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h. Insert needle

    (1) Hold skin taut to anchor vein

    (2) 15-30° angle insertion

    (3) Bevel up

i. After needle is inserted gently puncture rubber stopper of vacuum tube

j. Release tourniquet when collecting tubes are filled

k. Place antiseptic prep lightly over puncture site

l. Withdraw needle quickly

m. Apply firm pressure with antiseptic prep over puncture site for 30-60 seconds; have patient elevate arm

n. Remove vaccum tube from holder and agitate slightly if tube contains any additive

o. Attach label and lab slip to specimen

p. Forward to lab

q. Destroy used or contaminated needles

r. Clean holder and return to storage area, wash hands

s. Notify team leader or RN

t. Chart in Nursing Notes

NOTE: misnumbered; pgs. 571 - 577 omitted; no material is missing

ACADEMY OF HEALTH SCIENCES, USA LP 65-340-025
NURSING SCIENCE DIVISION 057

Simple EENT Conditions (6 hrs.)

COURSES PRESENTED TO: 300-91C20, Clinical Specialist Course

PLACE: 1st Hour - classroom; 2nd hr - Bldg 1449 PE area; 3rd through 6th hours - Bldg 1446.

REFERENCES:

TM 8-230, Chap 2, pp 2-49 through 2-54
Brunner, L.S., and others. The Lippincott Manual of Nursing Practice, 1st ed. Philadelphia, Toronto: J.B. Lippincott Company, 1974.
Luckmann, J., and Sorenson, K.C. Medical-Surgical Nursing: A Psychophysiological Approach. 1st ed. Philadelphia: W.B. Saunders Co., 1974, pp 1472.

STUDY ASSIGNMENT: Before class, read TM 8-230, Chap 2, pp 2-49 through 2-54.

STUDENT UNIFORM AND EQUIPMENT:

3rd to 6th hour, bring to class M 65-340-025-6, -7 (issued 2nd hr)

TOOLS, EQUIPMENT AND MATERIALS:

M 65-340-025-1,- -5(1st hour) issued before class.
M 65-340-025-6,-7 (2nd hour) issued before class.

PERSONNEL:

1st hour Lecture, Primary - 91C and 1 ANC
2nd hour Demonstration, Primary - 91C and 1 ANC, S-2 (See Annex F)
3rd through 6th hours, Practical Exercise - Primary - 91C, 1 ANC, S-15 (See Annex F)

INSTRUCTIONAL AIDS:

1st hour - viewing screen, overhead projector, chalkboard, chalk, eraser. Equipment and material (see Annex B). Transparencies (See Annex A). PA system with lapel mike (1st hr)

TROOP REQUIREMENTS: Not applicable.

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: 1 Lecture (1st hour); 1 Demonstration (2nd hour), 4 Practical Exercise (3-6 hours).

FIRST HOUR

I. **INTRODUCTION:** (3 min)

A. Opening Statement: The eyes, ears, nose and throat are exposed to direct contact with the environment, therefore they can easily receive injury or become diseased. Loss or injury of these structures may cause disfigurement of serious handicaps. Nursing procedures employed in the treatment of EENT conditions must be done correctly to be effective and prevent further damage.

B. Objectives

1. Given a list of terms and a diagram, label a drawing of the eye, external ear, and nose and throat, as discussed in class.

2. List 6 structures of the eye and state the function of each, as discussed in class.

3. State the function of the external ear as discussed in class.

4. List 3 structures of the nose and throat and state the function of each, as discussed in class.

5. State 4 conditions affecting: the eye; the ear; the nose and throat; as discussed in class.

C. Class Procedure and Lesson Tie-in:

This is the first of 6 hours of instruction on simple EENT conditions; the next hour will be a demonstration, followed by 4 hours of practical exercise.

II. **EXPLANATION** (34 min)

A. The Eye

1. Function of the eye
the organ of sight

2. Structure of the eye

NOTE: Display T 65-340-025-1

a. Conjunctiva

(1) Sensitive membrane covering the eye and the lids

(2) Protects the eye

b. Pupil

(1) Opening to the lens and inner eye

(2) Allows light to enter interior of eye

c. Iris

(1) Pigmented material of the eye

(2) Contracts or dilates the pupil according to the intensity of light

d. Tear duct

(1) Opening on inner aspect of lower lid

(2) Drains lacrimal fluid into nasal cavity

QUESTION: What is lacrimal fluid?

ANSWER: Tears

e. Cornea

NOTE: Display T 65-340-025-2

(1) Transparent anterior portion of eye

(2) Focuses and transmits light to the interior eye

f. Sclera

(1) White, fibrous, nontransparent part of the eye

(2) Helps to maintain the shape of the eyeball and protects the structures within

g. Lens

(1) Disc-shaped transparent structure behind the iris

(2) Focuses images to the interior eye

3. Conditions affecting the eye
    - a. Infection: bacterial, viral, fungal
    - b. Foreign bodies
    - c. Irritation
    - d. Degenerative disease
    - e. Abrasion, ulceration

B. The External Ear

1. Function of the external ear

    the collection and conduction of sound waves to the middle and the inner ear

2. Structure of the external ear.

NOTE: Display T 65-340-025-3

- a. Helix
- b. Auricle
- c. Concha
- d. Lobule
- e. Tragus
- f. External canal
- g. Eardrum

3. Conditions affecting the external ear
    - a. Infection: bacterial, viral, or fungal
    - b. Foreign bodies
    - c. Irritation, injury
    - d. Impaction of cerumen

QUESTION: What is cerumen?

ANSWER: Ear wax

C. The Nose and Throat

1. Function of the nose and throat

a. To warm, moisten, and filter the air

b. The organ of smell

c. Aids in voice production

2. Structure of the nose and throat

NOTE: Display T 65-340-025-4

a. Turbinates

(1) Line the nasal cavity

(2) Increase the mucous membrane surface

b. Sinuses

(1) Resonance chambers in the production of voice

(2) Decrease the weight of the skull

c. Adenoids and tonsils

(1) Lymphatic tissues in the naso-pharynx

(2) Filter bacteria

3. Conditions affecting the nose and throat

a. Infection: bacterial, viral, or fungal

b. Foreign bodies

c. Injury

d. Allergy

e. Irritation

f. Congenital or traumatic deformities

D. Questions From Students

III. **SUMMARY** (3 min)

A. Review of Main Points

1. Eye

2. Ear

3. Nose and throat

4. Function - Structure - Conditions

B. Closing Statement: Because the structures we have discussed are susceptible to injury and disease, it is important for you to be able to give treatments as required. In the next hour of instruction on EENT conditions you will see some of the treatments that are given.

SECOND HOUR

I. **INTRODUCTION** (3 min)

A. Opening Statement: Many EENT conditions require the application of topical medications. These medications are used to combat infection, relieve pain and reduce discomfort and inflammation. Treatments are also employed to cleanse and protect affected structures. It is the clinical specialist's responsibility to perform these procedures.

B. Objectives

*1. Given the equipment and a patient, instill eye drops and perform an eye irrigation, as shown in class.

*2. Given the equipment and a patient, instill ear drops and perform an ear irrigation, as shown in class.

*3. Given a patient and after practice, demonstrate measures to control a nose bleed to include: positioning, pressure, and instillation of nose drops, as shown in class.

*4. Given the equipment and a patient, apply hor or cold compresses to the eye, as shown in class.

*5. Given the equipment and a patient, apply an eye patch as shown in class.

6. State 3 procedures employed in using a mist vaporizer.

C. Class Procedure and Lesson Tie-in:

This is the second hour of 6 hours of instruction on simple EENT conditions. The next 4 hours will consist of practical exercise. You will each have the opportunity to play the role of the patient, so pay close attention, so no one is injured.

II. DEMONSTRATION (34 min)

A. Steps in Procedure

1. Instilling eye drops

a. Secure medication

(1) Identify drug

NOTE: Use medication card

(2) Identify affected eye

(a) o.d. - right eye

(b) o.s. - left eye

(c) o.u. - both eyes

(3) If drug is refrigerated, allow to warm to room temperature

NOTE: At this time caution student as to the use of eyedropper: The dropper should never be inverted or filled too full, as there is a risk of contaminating the solution by contact with fine particles of rubber found in the bulb. Discard excess solution remaining after installation of drop to prevent contamination of remaining solution.

b. Prepare the patient

(1) Explain the procedure and its purpose to the patient

(2) Position the patient - sitting in chair or supine in bed

(3) Cleanse any secretions from the eye

(4) Instruct the patient to close the eye after installation of drop(s)

QUESTION: Why shouldn't the patient close his eye tightly?

ANSWER: He may expel the medication.

c. Instill the drops

(1) Position the head straight - tilted slightly backward

(2) Steady the hand on the patient's forehead

(3) Instruct the patient to look upward

(4) Depress lower lid with finger(s)

(5) Administer eyedrop(s) into lower lid

(6) Press the inner angle of the eye after the drug is instilled and the eye is closed

(7) Instruct the patient to rotate the eyeball

d. Follow up

(1) Dry face and eye with tissue

(2) Report patient's tolerance of treatment

(3) Report adverse reactions

2. Eye Irrigation

a. Secure medication

(1) Identify drug

(2) Identify affected eye

(3) If drug is refrigerated, allow to warm to room temperature

b. Prepare the patient

(1) Explain the procedure and the purpose to the patient

(2) Position the patient:
Sitting in chair or dorsal recumbent position in bed

c. Perform the irrigation

(1) Tilt the head toward the affected eye

QUESTION: Why tilt the head toward the affected eye?

ANSWER: To prevent contamination of the other eye.

(2) Place basin at side of the face to catch overflow

(3) Wash eyelashes and lids with prescribed solution

(4) Evert upper lid

(5) Irrigate from inner corner to outer corner of conjuctival sac

(6) Use only enough force to flush secretions from conjuctiva

(7) Have patient close eyes occasionally

(8) Evert lower lid and repeat steps (5), (6), (7).

d. Follow up

(1) Dry face and eye with tissue

(2) Report patient's tolerance of treatment

(3) Report adverse reactions

3. Ear irrigation

a. Secure medication

(1) Identify drug

(2) Identify affected ear

(3) Warm drug to body temperature

b. Prepare the patient

(1) Explain the procedure and its purpose to the patient

(2) Position the patient:
Sitting in chair - or supine in bed

(3) Cleanse the external opening of the ear

c. Perform the irrigation

(1) Have patient hold basin under ear

(2) Tilt the head toward the affected ear

(3) Angle the ear by grasping auricle

(4) Irrigate the ear - directing the flow toward the sides of the external canal wall to prevent injury

(5) Discontinue treatment if pain or dizziness occur

d. Follow up

(1) Turn head toward affected ear -- to allow drainage

(2) Provide tissue to wipe ear

(3) Report patient's tolerance of treatment

(4) Report adverse reaction to treatment

4. Ear drops

a. Secure medication

(1) Identify drug

(2) Identify affected ear

(a) a.d. - right ear

(b) a.s. - left ear

(c) a.u. - both ears

(3) Warm drug to body temperature

QUESTION: Why warm the drug?

ANSWER: Solutions that are cold will cause dizziness, pain, and headache.

b. Prepare the patient

(1) Explain the procedure and its purpose to the patient

(2) Position the patient: sitting in chair or supine in bed

(3) Cleanse the external opening of the ear

(4) Instruct the patient to keep head tilted for 10 minutes after instillation of drops to allow for absorption of medication.

c. Instill the drop(s)

(1) Tilt the head with affected ear upward

(2) Angle the ear by grasping auricle

(a) adult: up and back

(b) child: down and back

(3) Instill drop onto external ear canal wall

QUESTION: Why not drop medication directly down into ear?

ANSWER: May cause pain or damage to the eardrum.

d. Follow up

(1) Provide tissue to remove drainage

(2) Report patients tolerance of treatment

(3) Report adverse reactions

5. Measures to control nose bleed

a. Elevate trunk of body

b. Compress soft tissue against septum

c. Instill vasoconstricting drops

d. Post nasal packing

6. Instilling nose drops

a. Secure medication

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b. Prepare patient

c. Instill drops

(1) Place patient in the Parkinson position (head down, off side of bed)

(2) Direct drops toward anterior portion of nose

(3) Allow for time for absorption

d. Follow up

(1) Provide tissues for absorbing drainage

(2) Report patient's tolerance of treatment

(3) Report effect of treatment

7. Applying hot or cold compresses to the eye

a. Prepare solution and compresses

(1) Iced sterile saline or heated sterile saline as ordered

(2) Observe medical asepsis - use sterile technique as indicated

b. Prepare the patient

(1) Explain procedure and its purpose to the patient

(2) Protect linen with towel - position patient

(3) Apply sterile petroleum jelly to the eyelid

c. Applying compresses

(1) Use separate equipment for each eye

(2) Change compresses every 30-60 seconds

(3) Apply for the length of time ordered

d. Follow up

(1) Provide for comfort

(1) Provide for comfort

(2) Report patient's tolerance of treatment

(3) Report adverse reaction to treatment

8. Applying an eye patch

a. Explain procedure and purpose to the patient

b. Apply eyepatch

(1) Instruct patient to close the eye

(2) Use one or two pads as required

(3) Secure pad(s) with tape; apply from upper medial corner to lower lateral corner

9. Preparing a mist vaporizer for use

a. Use only distilled water - refill as required

b. Place medications ONLY in medicine cup

c. Caution patient against burns

d. Observe electrical appliance safety precautions

B. Questions From Students

III. SUMMARY

A. Review of Main Points

1. Eye drops and irrigation

2. Ear drops and irrigation

3. Measures to control a nose bleed

4. Hot and cold compresses to the eye

5. Application of an eye patch

6. Procedures in using a mist vaporizer

B. Closing Statement: Medications and treatments must be given correctly to be effective. Careless technique will result in ineffective treatments or additional injury and unnecessary pain for the patient.

THIRD THROUGH SIXTH HOURS

I. **INTRODUCTION:**

A. Opening Statement: Nursing procedures for simple EENT conditions must be done correctly to the effective and prevent injury. During this practical exercise you will each have the opportunity to demonstrate your skills and correct any errors in technique.

B. Objectives:

1. Instill eye drops and perform an eye irrigation
2. Instill ear drops and perform an ear irrigation
3. Demonstrate measures to control a nose bleed
4. Apply hot and cold compresses to the eye
5. Apply an eye patch

C. Class Procedure and Lesson Tie-in

The next four hours of practical exercise will conclude the instruction on simple EENT conditions.

II. **APPLICATION** (154 min)

A. Arrangement of Students

NOTE: See Annex C

B. Directions to Students

1. Under the supervision of an instructor you will each perform each procedure at each station.
   - a. Station #1 installation of eye drops and eye irrigation
   - b. Station #2 application of hot and cold compresses to the eye
   - c. Station #3 measures to control a nosebleed
   - d. Station #4 ear irrigation and installation of ear drops
   - e. Station #5 application of eye patch

2. Observe hand washing and medical asepsis techniques.

3. In an exercise is completed before scheduled time, report to visual aids station.

4. The exercise will be ungraded and will be used only as a means of teaching.

C. General Plan for Conducting Practical Exercise

NOTE: See Annex G

D. Student Activities

NOTE: See Annex E

E. Instructors' Activities

1. Set up Bldg #1446 before 3rd hour

NOTE: See Annex C and Annex D

2. Supervise students' activities - correct errors in technique on the spot.

3. Maintain class discipline and enforce safety precautions.

F. Safety Precautions - See Annex H

G. Questions From Students

III. SUMMARY (3 min)

A. Review of Main Points

1. Eye drops and eye irrigation

2. Application of hot and cold compresses to the eye

3. Measures to control a nosebleed

4. Ear drops and irrigation

5. Application of eye patch

B. Closing Statement: You have each had the opportunity to perform the nursing procedures taught in class. Remember that protecting the patient from further injuries is the key to the treatment you have just practiced.

ANNEX A

INSTRUCTIONAL AIDS

Transparencies

T 65-340-025-1	Diagram of external eye to include Conjuctive, pupil, iris, tearduct.
T 65-340-025-2	Diagram of anterior portion of eye to include conjuctiva, cornea, sclera, iris, lens.
T 65-340-025-3	Diagram of external ear to include helix, auricle, concha, lobule, tragus, external canal and eardrum.
T 65-340-025-4	Diagram of nose and throat to include septum, frontal sinus, spheroid sinus, turbinater, adenoid tonsil.

NOTE: These transparencies are used to support main points of lecture (1st hour).

ANNEX C

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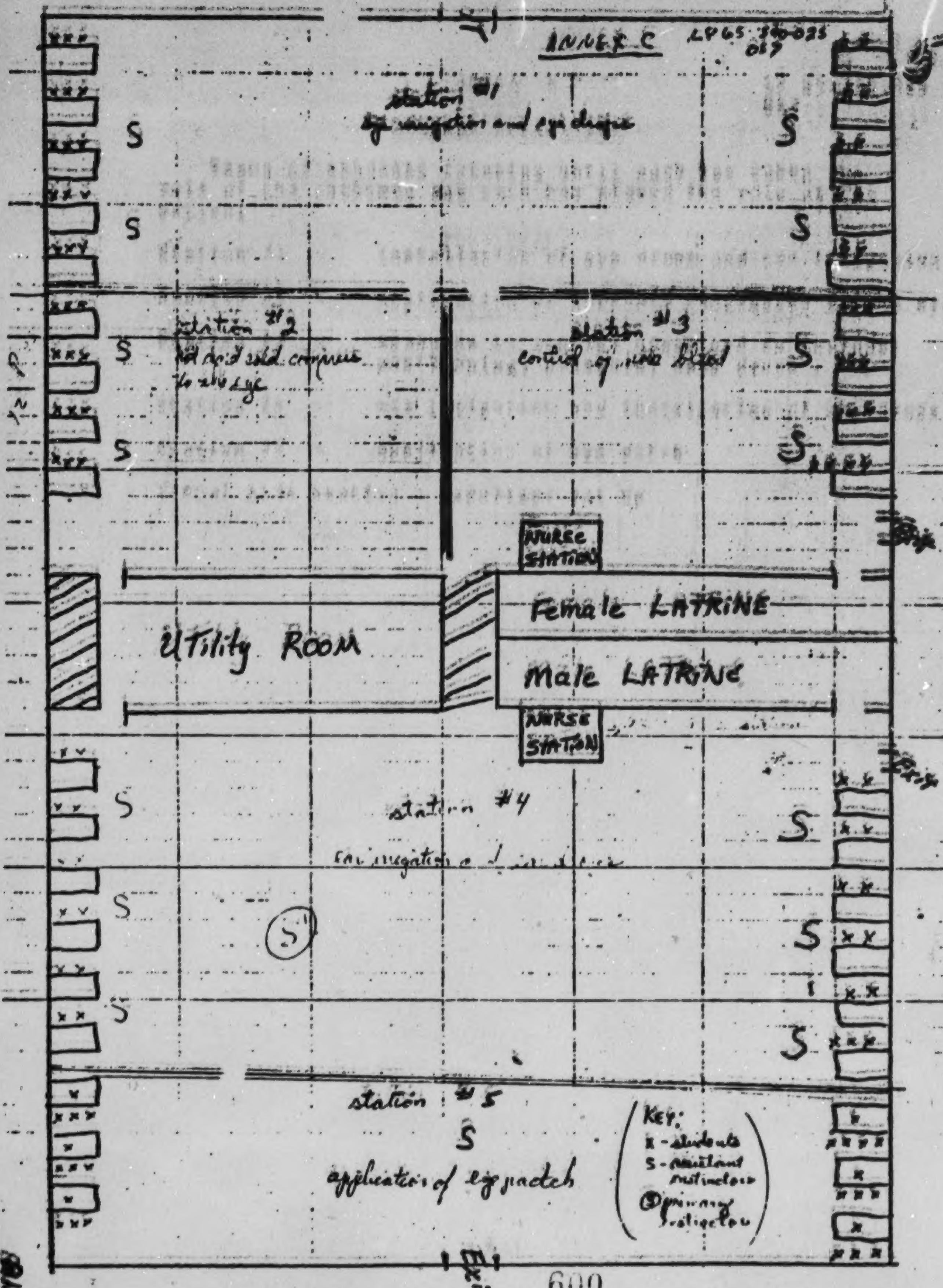

station #1
eye irrigation and eye drops
station #2
hot and cold compress to the eye
station #3
control of nose bleed
NURSE STATION
Female LATRINE
Male LATRINE
Utility ROOM
NURSE STATION
station #4
ear irrigation and ear drops
station #5
application of eye patch
S
Ⓢ
x x x
Key:
x - students
S - assistant instructors
Ⓢ primary instructor

Bedsides

Station # 1 Eye irrigation and eye drops
- 4x4
- Kleenex
- eye drops - Dacriose
- emesis basin
- bed linen protector
- 1000cc NS
- IV poles
- 3-way extension tubing
- cutter IV tubing

Station # 2 Hot/cold compresses to the eye
- 4x4
- facial tissues
- bed linen protector
- sterile petroleum jelly (Vaseline)
- 4 prep basins

Station # 3 Control of nose bleed
- facial tissue
- 4 oz bottle H_2O

Station # 4 Ear irrigation & ear drops
- Kleenex tissues
- emesis basin
- 4x4
- Q-tips
- ear drops/ear irrigation solution
- prep basins
- asepto syringe - clean
- chucks

Station # 5
- eye pads
- 1 inch surgical tape

ANNEX E

Student Activities

Teams of students rotating until each has taken the role of the corpsman and each has played the role of the patient.

Station #1 - installation of eye drops and eye irrigation

Station #2 - application of hot/cold compresses to the eye

Station #3 - measures to control nosebleed to include: positioning, pressure, nose drops

Station #4 - ear irrigation and installation of ear drops

Station #5 - application of eye patch

Visual Aids Station - vaporizer set up

ANNEX F

Personnel

Two (2) assistant instructors (ANC, 91C) (2nd hour)

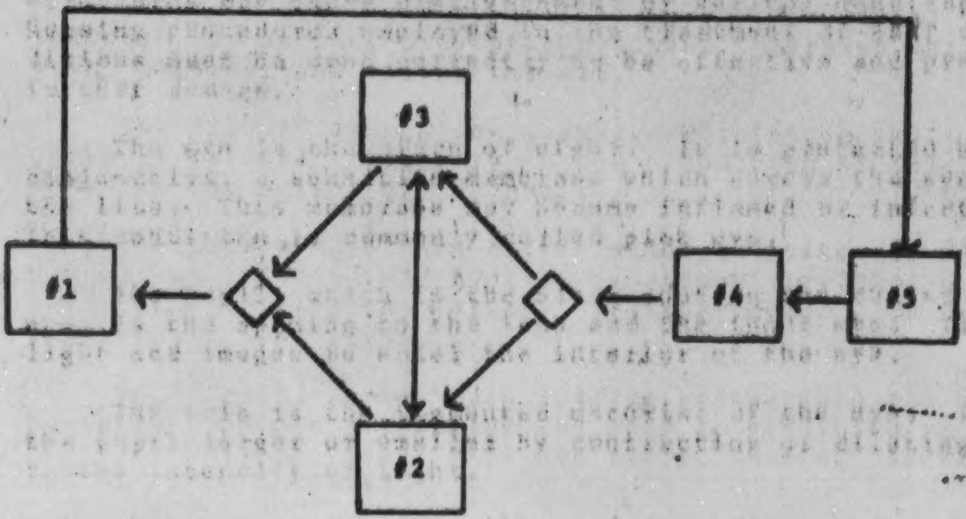
Fifteen (15) assistant instructors (ANC, 91C) (3rd through 6th hours)

ANNEX C

LP 65-340-025
057

General Plan for Conducting Exercise

FLOW CHART



F. Safety Precautions

1. Personnel wearing contact lenses or those with previous or existing ear or eye conditions will inform supervising instructor before exercise begins. Instructor will determine if student should or should not play the role of the patient in exercises depending on student's report and physical evaluation.

2. Physical evaluation: Students reporting ear conditions will have their ears checked by those instructors who have been previously trained to perform a physical evaluation on the external ear canal. Those who show signs of an existing ear condition or those students reporting a history of a ruptured ear drum will not play the role of the patient, in exercises involving the instillation of ear drops or irrigation of the ear. Students wearing contact lenses will not participate in exercises involving the instillation of eye drops or irrigation of the eye.

3. Ear irrigation will be performed first through each rotation - followed by instillation of ear drops to prevent ear infections or other complications.

4. Solutions for ear drops and ear irrigation MUST be at body temperature (98°-100°).

5. Eye irrigations will be performed first through each rotation - followed by instillation of eye drops - for student comfort.

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NURSING SCIENCE DIVISION 057

Simple EENT Conditions

The eyes, ears, nose, and throat are exposed to direct contact with the environment, therefore they can easily receive injury or become diseased. Loss or injury of these structures may cause disfigurement or serious handicap. Nursing procedures employed in the treatment of EENT conditions must be done correctly to be effective and prevent further damage.

The eye is the organ of sight. It is protected by the conjunctiva, a sensitive membrane which covers the eye and the lids. This membrane may become inflamed or infected. This condition is commonly called pink eye.

The pupil, which is the black spot in the center of the eye, is the opening to the lens and the inner eye. It allows light and images to enter the interior of the eye.

The iris is the pigmented material of the eye. It makes the pupil larger or smaller by contracting or dilating according to the intensity of light.

The tear duct is a small opening on the inner aspect of the lower lid, which drains lacrimal fluid (tears) into the nasal cavity.

The cornea is the transparent anterior portion of the eye. It focuses and transmits light to the interior eye. The cornea is very easily damaged. Medications or solutions must NEVER be applied directly to the cornea. When solutions or ointments are applied to the upper conjunctival sac, instruct the patient to look down. If medications are to be instilled into the lower lid, instruct the patient to look upward. It is extremely important to avoid any direct contact with the cornea to prevent ulcerations or abrasions that may cause scarring and affect eyesight.

The sclera, which is continuous with the cornea, is the white fibrous, nontransparent part of the eye. It helps to maintain the shape of the eyeball and protects the structures within.

The lens is a disc-shaped transparent structure behind the iris. It focuses images to the interior eye.

Both the lens and the cornea can be affected by degenerative diseases. They may lose their opacity or normal shape. The lens may fail to focus light to the inner eye correctly.

Foreign bodies impaled in the eye should be removed only by a physician. The delicate structures within the eye may be permanently damaged by injury from foreign bodies.

As we have discussed, the eye is susceptible to both disease and injury to include: infection, injury from foreign bodies, irritation, degenerative disease, abrasions, and ulcerations.

The external ear's function is the collection and conduction of sound waves to the middle and the inner ear.

The helix is the prominent folded rim of the ear. The auricle is the shell-shaped portion of the ear which projects from the side of the head. The concha is the deep cavity leading into the external auditory canal. The lobule is the fatty tissue at the lowest point of the ear. The tragus is the small triangular eminence of cartilage projecting backward over the entrance of the external auditory canal. The external auditory canal extends about 1 ½ inches from the entrance at the bottom of the concha to the eardrum. The tympanic membrane separates the inner end of the canal from the middle ear.

Q-tips, bobby pins, or similar objects should never be used to clean the external ear canal. They could easily damage or rupture the eardrum or cause damage to the ear canal.

Small children often push small objects into the ear canal. Before irrigating the ear to remove a foreign object be sure that the object will not swell.

Never irrigate the ear by directing the fluid against the eardrum, by doing so, foreign objects may be pushed further into the ear or the eardrum itself may be traumatized.

Never probe for an object as it may lodge further into the ear. If the object is not easily removed, the physician should remove it.

The external ear is susceptible to both disease and injury to include: infection, injury from foreign bodies, irritation, trauma, and impaction of cerumen (ear-wax).

The function of the nose and throat is to warm, moisten and filter the air, and to aid in the production of voice. The olfactory nerves (organ of smell) are located within the upper nasal cavity.

Lining the nasal cavities are the turbinates, which are thin shell-shaped bones covered by mucous membranes. They increase the surface area of the mucous membranes which warm, moisten, and filter the air.

The sinuses are hollow chambers within the skull. They serve as resonance chambers in the production of voice and decrease the weight of the skull.

The mucous membranes of the nasal cavities and sinuses may become inflamed and swollen because of irritation or infection, causing the "stuffy" feeling common with upper respiratory conditions.

Small children may push foreign bodies into the nasal passages. Before irrigating the nose to remove an object, be sure that the object will not swell, causing severe pain and additional trauma.

The adenoids and tonsils are masses of lymphatic tissue in the naso-pharynx. They filter bacteria from the areas of the nose and throat. Chronic infections may necessitate the removal of the tonsils and/or adenoids.

The nose and throat are susceptible to infection, injury from foreign bodies, allergic conditions, irritation, and congenital or traumatic deformities.

Because the structures we have discussed are extremely susceptible to injury and disease, it is important for you to be able to give treatments as required. In the practical exercise for the next four hours you will each have the opportunity to practice your skills.

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

[illegible] Number
[illegible]-1
[illegible]

Simple EENT Conditions

Objectives:

1. Given a list of terms and a diagram, label a drawing of the eye, external ear, and nose and throat, as discussed in class.
2. List 6 structures of the eye and state the function of each, as discussed in class.
3. State the function of the external ear, as discussed in class.
4. List 3 structures of the nose and throat and state the function of each, as discussed in class.
5. State 4 conditions affecting: the eye, the ear, the nose and throat, as discussed in class.

NOTES

A. The Eye

1. Function:

2. Structure of the eye

a. Conjunctiva

(1)

(2)

b. Pupil

(1)

(2)

c. Iris

(1)

(2)

d. Tear duct

(1)

(2)

e. Cornea

(1)

(2)

f. Sclera

(1)

(2)

g. Lens

(1)

(2)

3. Conditions affecting the eye

a.

b.

c.

d.

e.

B. The External Ear

1. Function of the external ear

2. Structure of the external ear

a.

b.

c.

d.

e.

f.

g.

3. Conditions affecting the external ear

   a.

[redacted]

   c.

   d.

C. The Nose and Throat

1. Function

   a.

   b.

   c.

2. Structure of the nose and throat

   a. Turbinates

      (1)

      (2)

   b. Sinuses

      (1)

      (2)

c. Adenoids and tonsils

(1)

(2)

3. Conditions affecting the nose and throat

a.

b.

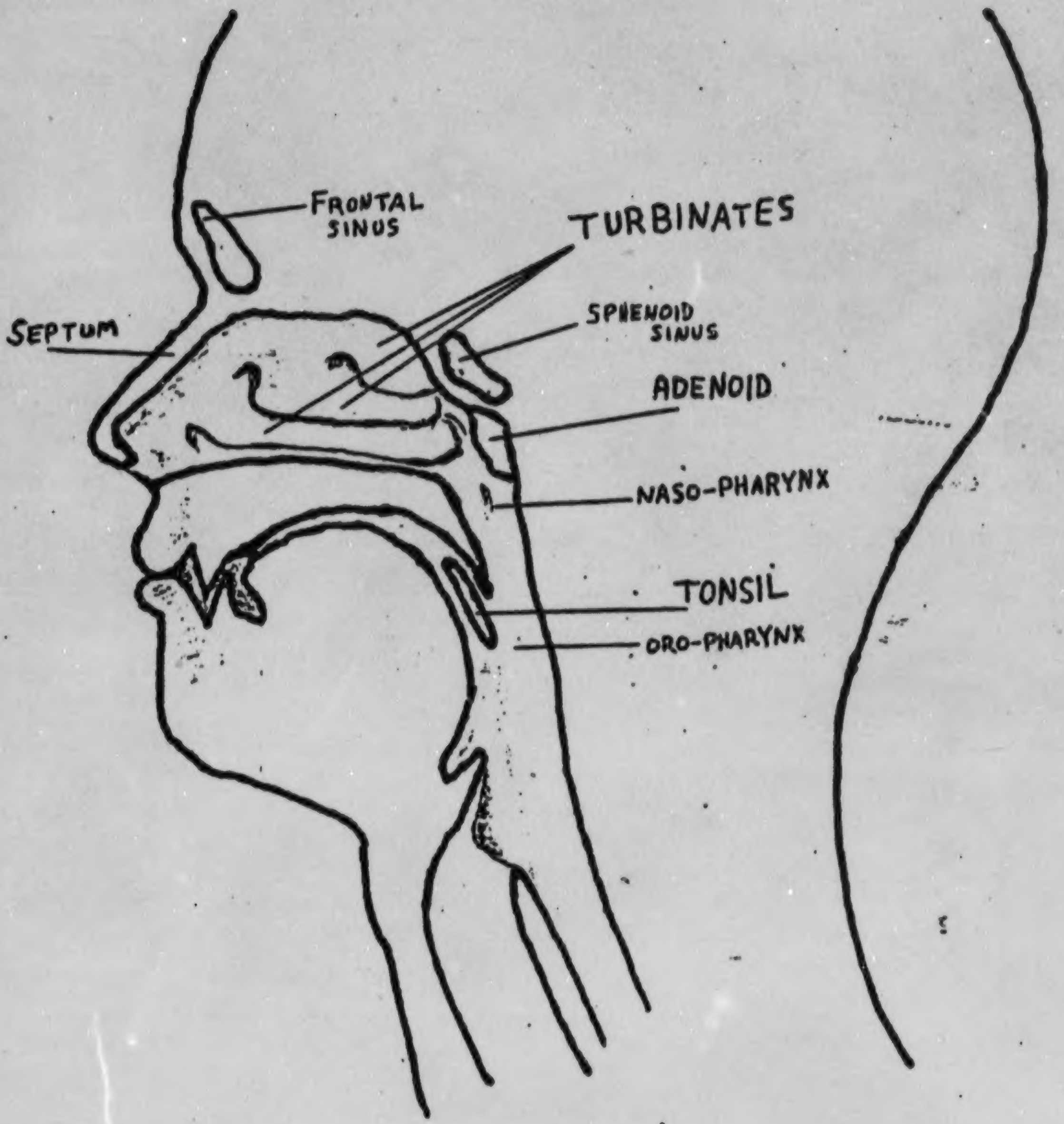
c.

d.

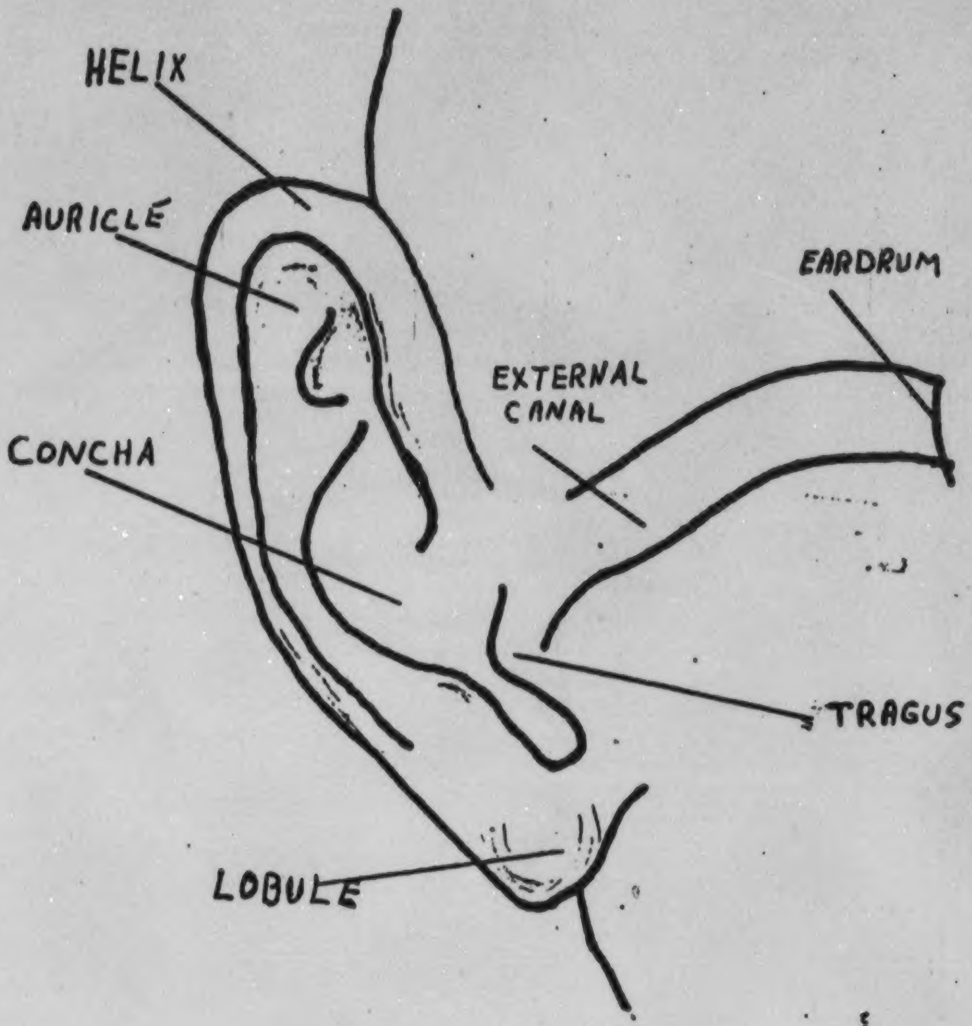
e.

f.

Simple EENT Conditions


FRONTAL SINUS
TURBINATES
SEPTUM
SPHENOID SINUS
ADENOID
NASO-PHARYNX
TONSIL
ORO-PHARYNX

Simple EENT Conditions


HELIX
AURICLE
EARDRUM
EXTERNAL CANAL
CONCHA
TRAGUS
LOBULE

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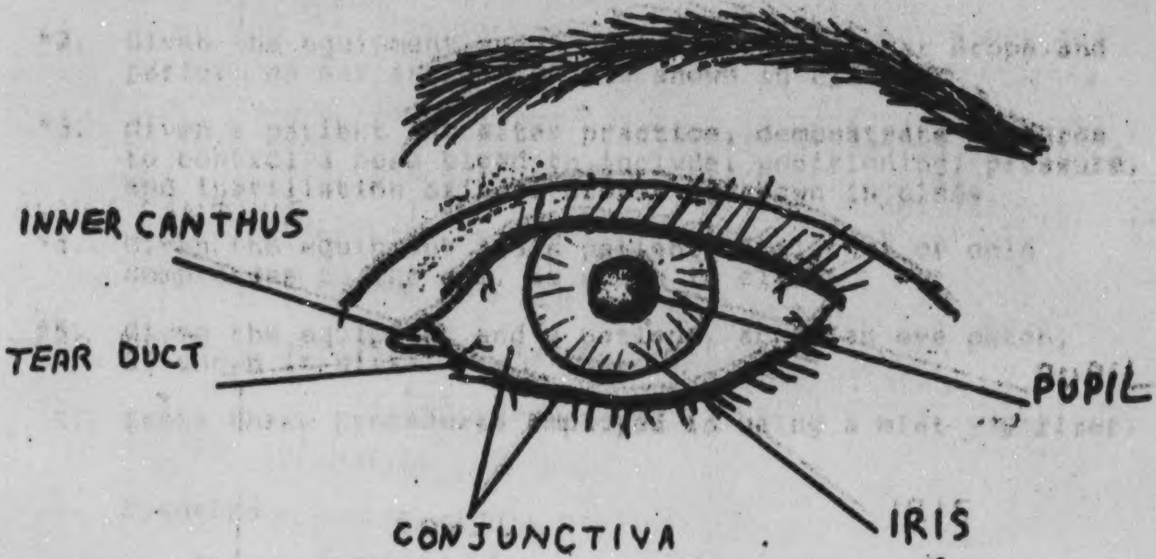
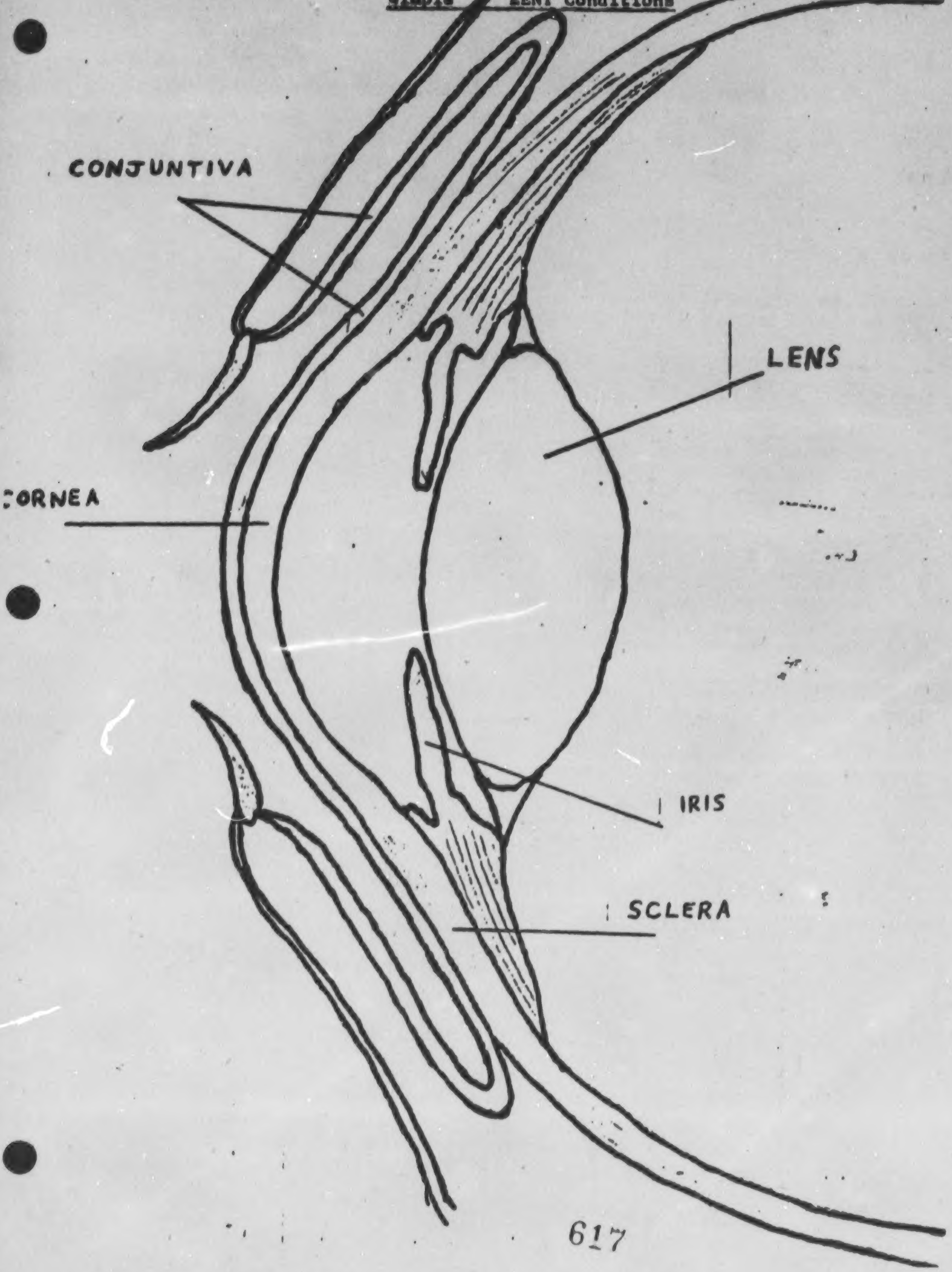
NURSING SCIENCE DIVISION 057

Simple EENT Conditions


INNER CANTHUS
TEAR DUCT
PUPIL
CONJUNCTIVA
IRIS


CONJUNTIVA
LENS
ORNEA
IRIS
SCLERA

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Procedures For Simple EENT Conditions

Objectives:

*1. Given the equipment and a patient, instill eye drops and perform an eye irrigation, as shown in class.

*2. Given the equipment and a patient, instill ear drops and perform an ear irrigation, as shown in class.

*3. Given a patient and after practice, demonstrate measures to control a nose bleed to include: positioning, pressure, and instillation of nose drops, as shown in class.

*4. Given the equipment and a patient, apply hot or cold compresses to the eye, as shown in class.

*5. Given the equipment and a patient, apply an eye patch, as shown in class.

6. State three procedures employed in using a mist vaporizer.

1. Eyedrops
    a. Secure medication
        (1) Identify drug
        (2) Identify affected eye
        (3) Warm drug to room temperature
    b. Prepare the patient
        (1) Explain the procedure and it's purpose to the patient
        (2) Position the patient (sitting in chair or supine in bed)
        (3) Cleanse any secretions from the eye
        (4) Instruct the patient to close the eye tightly after installation of drop (s).

*Terminal objectives

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c. Instill the drops

(1) Position the head straight, tilted slightly backward

(2) Steady the hand on the patient's forehead

(3) Instruct the patient to look upward

(4) Depress lower lid with finger (s)

(5) Administer eyedrop (s) onto lower lid

(6) Press the inner angle of the eye after the drug in instilled and the eye is closed

(7) Instruct the patient to rotate the eyeball

d. Follow-up

(1) Dry face and eye with tissue

(2) Report patient's tolerance of treatment

(3) Report adverse reactions

2. Eye irrigation

a. Secure medication

(1) Identify drug

(2) Identify affected eye

(3) Warm to room temperature

b. Prepare the patient

(1) Explain the procedure and the purpose to the patient

(2) Position the patient:
Sitting in chair or dorsal recumbent position in bed

c. Perform the irrigation

(1) Tilt the head toward the affected eye

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(2) Place basin at side of the face, to catch overflow

(3) Wash eyelashes and lids with prescribed solution

(4) Evert upper lid

(5) Irrigate from inner corner to outer corner of conjuctival sac

(6) Use only enough force to flush secretions from conjuctiva

(7) Have patient close eyes occasionally

(8) Evert lower lid and repeat steps (5), (6), (7)

d. Follow-up

(1) Dry face and eye with tissue

(2) Report patient's tolerance of treatment

(3) Report adverse reactions

3. Ear irrigation

a. Secure medication

(1) Identify drug

(2) Identify affected ear

(3) Warm drug to body temperature

b. Prepare the patient

(1) Explain the procedure and it's purpose to the patient

(2) Position the patient:
Sitting in chair, or supine in bed

(3) Cleanse the external opening of the ear

c. Perform the irrigation

(1) Have patient hold basin under ear

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(2) Tilt the head toward the affected ear

(3) Angle the ear by grasping auricle

(a) Adult: up and back

(b) Child: down and back

(4) Irrigate the ear - directing the flow toward the side of the external canal wall to prevent injury

(5) Discontinue treatment if pain or dizziness occur

d. Follow-up

(1) Turn head toward affected ear to allow drainage

(2) Provide gauze to wipe ear

(3) Report patient's tolerance of treatment

(4) Report adverse reactions to treatment

4. Ear drops

a. Secure medications

(1) Identify drug

(2) Identify affected ear

(3) Warm drug to body temperature

b. Prepare the patient

(1) Explain the procedure and it's purpose to the patient

(2) Position the patient:
Sitting in chair or supine in bed

(3) Cleanse the external opening of the ear

(4) Instruct the patient to keep head tilted for 10 minutes after instillation of drops (s) to allow for absorption of medication

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c. Instill the drop (s)
  (1) Tilt the head with affected ear upward
  (2) Angle the ear by grasping auricle
  (3) Instill drop (s) onto external ear canal wall

d. Follow-up
  (1) Provide tissue to remove drainage
  (2) Report patient's tolerance of treatment
  (3) Report adverse reactions

5. Measures to control nose bleed
  a. Elevate trunk of body
  b. Compress soft tissue against septum
  c. Instill vasocontricting drops
  d. Postnasal packing

6. Instilling nose drops
  a. Secure medication
  b. Prepare patient
  c. Instill drops
    (1) Place patient in the Parkinson position
    (2) Direct drops toward anterior position of nose
    (3) Allow time for absorption
  d. Follow-up
    (1) Provide tissues for absorbing drainage
    (2) Report patient's tolerance of treatment
    (3) Report affect of treatment

7. Applying hot or cold compresses to the eye

   a. Prepare solution and compresses

      (1) Iced sterile saline or heated sterile saline as ordered

      (2) Observe medical asepsis - use sterile technique as indicated

   b. Prepare patient

      (1) Explain procedure and it's purpose to the patient

      (2) Protect linen with towel - position patient

      (3) Apply sterile petroleum jelly to the eyelid

   c. Applying compresses

      (1) Use separate equipment for each eye

      (2) Change compresses every 30-60 seconds

      (3) Apply for the length of time ordered

   d. Follow-up

      (1) Provide for comfort

      (2) Report patient's tolerance of treatment

      (3) Report adverse reactions to treatment

8. Applying an eye patch

   a. Explain procedure and purpose to the patient

   b. Apply eye patch

      (1) Instruct patient to close the eye

      (2) Use one or two pads as required

      (3) Secure pad (s) with tape, apply from upper medial corner to lower lateral corner

9. Preparing a mist vaporizer for use
   - a. Use only distilled water - refill as required
   - b. Place medications ONLY in medicine cup
   - c. Caution patient against burns
   - d. Observe electrical appliance safety precautions

3. SUPPLIES AND EQUIPMENT FURNISHED BY CENTRAL MATERIAL SECTION

Simple EENT Conditions 65-340-025

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Demonstration

CMS equipment and supplies

1. 4x4 gauze sponge - 20 pkg (topper)
2. Facial tissue - 2 boxes
3. Disposable medicine dropper - 3 ea
4. Cotton tip applicators - 1 pkg
5. 250cc bag normal saline - 2 bags
6. Prep basin- clean - 2 ea (simulate sterile)
7. Asepto bulb syringe - clean - 2 ea
8. Eye pads - 4 ea
9. Paper tape, 1 inch - 2 rolls
10. Petroleum, 2 1/2 oz tubes - 2
11. Cutter IV tubing (20gtt) - 2
12. Otoscope, with batteries - 1
13. Ammonia inhalant - 3
14. 3-way ext. - 2

Kept on Ward

1. Eye drops, Dacriose - 2
2. Emesis basin - 2
3. Ear drops, 2% acetic acid sol in alcohol - 2 bottles
4. Chux - 8
5. Aluminum acetate solution tabs -
6. 1 gallon jug, empty - 1
7. 4 oz bottle water - 1
8. IV poles - 2

PE

CMS equipment and supplies, per student

1. 4x4 gauze sponge - topper - 4 per student
2. Disposable medicine dropper - 1 per 2 students
3. Cotton tip applicators, 2 per student
4. Asepto bulb syringe, clean - 1 per student
5. Eye pads - 1 per student
6. Alcohol prep pads - 2 per student

Per Session

1. Facial tissues - 30 boxes
2. 1000cc bag normal saline - 12
3. Cutter IV tubing (20gtts) - 12
4. 3-way extention tubing - 12
5. Prep basin, clean, simulate sterile - 24
6. Flask NS, simulate sterile - 4
7. Paper tape, 1 inch - 12
8. Petroleum 1/2oz tube - 4 ea
9. Otoscope with batteries - 7
10. Cotton tip applicators - 1 pkg
11. Alcohol preps - 1 box

Kept on Ward

1. Chux - 3 per student
2. Aluminum Acetate tabs
3. Eye drops,dacriose-10 per session
4. Emesis basin - 25 per sess.
5. Ear drops - 27% acetic acid in alco,12
6. IV Poles - 12
7. 1 gal glass jug - 2
8. 2 oz bottle watter

CPT Schwegler

ACADEMY OF HEALTH SCIENCES, USA LP 65-340-026
NURSING SCIENCE DIVISION 087
ENLISTED INSTRUCTIONAL BRANCH

Cardiopulmonary Resuscitation (5 Hours)

COURSES PRESENTED TO: 300-91C20 Clinical Specialist (Primary Technical)

PLACE: Classroom and Practical Exercise area

REFERENCES:

American Heart Association (1). *A Manual for Instructor-Trainers and Instructors of Basic Cardiac Life Support*, 1975.

________________________ (2). *Training Manual, CPR: Basic Life Support*, 1975.

Brunner, Lillian S. and Suddarth, Doris S. (2). *Textbook of Medical-Surgical Nursing*. 3d ed. Philadelphia: J.B. Lippincott Co., 1975.

STUDY ASSIGNMENT: Review any material on CPR given in 91B Course.

STUDENT UNIFORM AND EQUIPMENT: Not applicable

TOOLS, EQUIPMENT, AND MATERIALS: M 65-340-026-1 thru 3 handed out at beginning of class. Equipment during PE see Annex C.

PERSONNEL: One (1) primary; Seven (7) secondary instructors (Nursing Science Division)

INSTRUCTIONAL AIDS: Manikins, adult and infant; chalk and chalkboard

TROOP REQUIREMENTS: Not applicable

TRANSPORTATION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: Lecture, Demonstration/Practical Exercise

FIRST AND SECOND HOURS

I. INTRODUCTION (5 min)

A. Opening Statement: There is nothing more miraculous or rewarding than to see a person "clinically dead" returned to life by effective cardiopulmonary resuscitation. Sudden cessation of respirations and/or pulse represents the greatest medical emergency requiring immediate and effective resuscitative measures. As clinical specialists you will find yourselves in a position requiring you to initiate those immediate and effective resuscitative measures. There will be few other times when you will need to think faster or with more precision than during an arrest situation.

B. Objectives:

1. Given a list, select the signs and symptoms of a complete airway obstruction.
2. Identify the steps that can be taken to provide an open airway.
3. Given an adult manikin, demonstrate the sequential manual maneuvers to remove a foreign body obstruction from the airway of conscious victim to include: back blows and manual thrusts.
4. Given an adult manikin, demonstrate the sequential manual maneuvers to remove a foreign body obstruction from the airway of an unconscious victim to include: back blows, manual thrusts and finger probe.
5. Identify when mouth-to-mouth and mouth-to-nose artificial respiration would be the method of choice.
6. Given a list, select the five symptoms of a heart attack.
7. Define cardiac arrest as given in class.
8. State the five signs of cardiac arrest.
9. Given a list, select the precautions to observe when applying CPR.
10. Given a list, select the sequential steps of CPR for a cardiac arrest.
11. Given an adult manikin demonstrate in sequence, CPR of a cardiac arrest to include both a one-man and a two-man rescue team.
12. Given an infant manikin, demonstrate in sequence the proper technique for resuscitating an infant.

C. Class Procedure and Lesson Tie-in:

This will be a two-hour lecture demonstration on CPR. Three hours of practical exercise are to follow where you will practice on manikins.

II. EXPLANATION/DEMONSTRATION (80 min)

A. Airway Obstruction

1. Conscious victim

a. Signs and symptoms

(1) Sudden onset

(2) Unable to speak

(3) "Distress signal of choking"

(4) Dusky color

(5) Labored respirations

(6) Air movement absent or not detectable

b. Steps in procedure

NOTE: Demonstrated by assistant on assistant as instructor explains

(1) Ask victim "can you speak?"

(2) Deliver four back blows

(a) Stands to side and behind victim

(b) Deliver sharp blows with palm of hand over spine between shoulder blades

(c) Support victim's chest with other hand

(3) Deliver four abdominal thrusts or chest thrusts

(a) Abdominal thrusts

[1] Stand behind victim and wrap your arms around victim's waist

[2] Grasp one fist with the other hand; place thumb side of fist against victim's abdomen between xiphoid and umbilicus

[3] Press fist into victim's abdomen with quick upward thrust

(b) Chest thrusts

[1] Wrap hands under victim's arms to encircle lower chest

[2] Grasp one fist with other hand with thumb side of fist on lower sternum not on xiphoid process.

[3] Press into chest with quick backward thrust

[4] Alternate back blows with chest thrust or abdominal thrust

2. Unconscious victim

NOTE: Demonstrated by assistant on assistant or manikin as instructor explains

a. Steps in procedure

(1) Determine level of consciousness - "Shake and shout"

(2) Open airway

(3) Determine presence or absence respirations

(4) Attempt to ventilate

(5) Reposition head and re-attempt ventilation

(6) Deliver four back blows

(a) Roll victim toward you

(b) Use thighs for support

(c) Deliver sharp blows to back

(7) Deliver four manual thrusts

(a) Abdominal thrusts

[1] Victim supine - place your knees close to victim's hips

[2] Place heel of one hand against victim's abdomen between xiphoid and umbilicus. Place second hand over fist.

[3] Press into victim's abdomen with quick upward thrust

(8) Chest thrust

(a) Victim supine - place your knees close to him

(b) Place one hand either side victim's lower chest with heels of hands in line with armpits - fingers wrapped around side of victim's chest

(c) Squeeze chest with quick downward thrust of arms and inward thrust of hands

(9) Look for foreign body

(a) Open mouth using cross finger technique or jaw lift

(b) Insert index finger down inside of cheek to base of tongue

(c) Using hook action dislodge foreign object and maneuver into mouth

(d) Be careful not to force object deeper

(10) Attempt to ventilate

(11) Repeat cycles until clear

B. Artificial Respirations

1. Choose method

a. Use mouth-to-mouth under normal conditions

QUESTION: In what instances would you use mouth-to-nose?

ANSWER: When unable to open jaw; jaw injured; not able to ventilate through mouth; difficult to achieve seal; nasal route preferred.

b. Use mouth-to-nose when

(1) Impossible to open victim's mouth

(2) Impossible to ventilate through mouth

(3) Victim's mouth seriously injured

(4) Difficult to achieve tight seal

(5) For some reason nasal route preferred

2. Steps in procedure for artificial respiration

NOTE: Demonstrated on manikin by assistant as instructor explains

a. Determine level of consciousness

b. Open airway

(1) Kneel on right side of victim - right knee opposite victim's shoulder

(2) Right hand under neck, palm up exert upward pressure

(3) Left hand on forehead exert backward and downward pressure

(4) If on left side reverse procedure

c. Determine presence or absence of respirations

(1) Place ear and cheek directly over and close to victim's mouth and nose as you face victim's chest

(2) Look - listen - feel

(a) Look for chest to rise and fall

(b) Listen for airflow at mouth and nose

(c) Feel for warmth and airflow at mouth and nose

d. Methods of artificial respiration

(1) Steps in procedure for mouth-to-mouth

(a) Seal victim's nose by pinching nostrils with left thumb and forefinger

(b) Place your mouth over victim's mouth and form tight seal

(c) Blow four full, quick breaths, enough to see victim's chest rise

(d) Remove your mouth and look towards chest after each respiration

(e) Repeat cycle every 5 seconds (12-15/min)

(2) Steps in procedure for mouth-to-nose

(a) Clamp jaw shut with fingers of right hand

(b) Seal mouth around victim's nose

(c) Four quick full breaths

(d) Open victim's mouth - allow to exhale

e. Common errors in performing artificial respiration

NOTE: Refer to chalkboard

(1) Inadequate neck extension

(2) Inadequate force and volume in breathing

(3) Lack of tight seal

(4) Failure to seal nose during mouth-to-mouth

(5) Failure to open mouth on exhalation during mouth-to-nose

f. Complications of artificial respiration

NOTE: Refer to chalkboard

(1) Air in stomach

(a) Causes pressure on lungs - pushes into diaphram

(b) May impair blood return to heart

(c) Increases likelihood of vomiting

(2) Vomiting

(a) Stop immediately

(b) Turn head to one side

(c) Clean mouth and throat

(d) Lower head if possible

C. Symptoms of Heart Attack

NOTE: Refer to chalkboard

1. Pain

a. Chest, shoulder or back

b. Radiates to arm

c. May complain of burning or indigestion

2. Nausea

3. Weakness

4. Diaphoresis

5. Dyspnea

D. Techniques of Cardiopulmonary Resuscitation

NOTE: Refer to handout M 65-340-026-3

1. Definitions

   a. Cardiac arrest is the sudden and unexpected cessation of the heart and effective circulation

   b. Clinical death (sudden death) is the sudden and unexpected cessation of breathing and functional circulation

   c. Biological death occurs 4-6 minutes after clinical death

2. Signs of cardiopulmonary arrest

   a. Absence of pulse

   b. Absence of breathing

   c. Dilated pupils

   d. Cyanosis

   e. Lack of extremity movement

3. Steps in procedure of adult arrest with one rescuer present

NOTE: Demonstrate on manikin by assistant as instructor explains

NOTE: Compression must be done with victim on hard surface

   a. Determine level of consciousness

   b. Open airway

   c. Determine presence or absence of respirations

   d. Give 4 full, quick breaths

   e. Determine presence or absence of pulse

      (1) Check carotid

QUESTION: Why do we specifically check carotid pulse?

ANSWER: The carotid is nearest to you, easily accessable and is a central artery

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- (2) Check for more than 5 seconds but less than 10 seconds

f. External cardiac compressions

- (1) Place victim on hard surface
- (2) Kneel with left knee even with victim's shoulder
- (3) Locate center lower-half sternum
- (4) Place heel on hand parallel on sternum
- (5) Place heel of other hand on back of first and interlock fingers
- (6) Lock elbows
- (7) Shoulders over victim's sternum
- (8) Exert pressure straight down
  - (a) All pressure on sternum
  - (b) Fingers not touching ribs
  - (c) Heel doesn't leave sternum
- (9) Depress 1-1/2 - 2 inches
- (10) Rate 80/min

g. Compression: breathing ratio 15:2

h. Check quickly for return pulse and respiration

4. Steps in procedure of adult arrest - two rescuers present

a. Preferred method

- (1) Compressions maintained without interruption
- (2) Two rescuers share workload

b. Procedure

- (1) First rescuer compresses

- (a) Rate 60/min
- (b) Counts out loud
- (c) Doesn't allow interruption for breath

(2) Second rescuer gives one breath between "5" and "1"

- (a) On opposite side from first rescuer
- (b) Deep breathe on count 3
- (c) Seal mouth on 4
- (d) Blow on count 5

(3) One breath every 5 compressions

(4) Compressions smooth, even, uninterrupted

(5) Change over

- (a) Initiated by rescuer doing compressions
- (b) Allows for exchange without stopping CPR
- (c) Steps in procedure
  - [1] First rescuer says, "We will change on 3."
  - [2] Second rescuer gives one quick full breath on "3" and moves from head to opposite first rescuer
  - [3] First rescuer continues to count and moves out of way - goes to victim's head
  - [4] Second rescuer gives 4th and 5th compressions as soon as first rescuer has hands out of way - no delay between count 3 and 4
  - [5] First rescuer gives breath on count "5"

5. Steps in procedure child victim (2-10 yrs)

NOTE: Refer to chalkboard

   a. Determine level of consciousness

   b. Open airway

   c. Determine presence or absence of respirations

   d. Give 4 quick breaths

      (1) Blow hard enough to cause chest to rise

      (2) Rate = 12-20 per minute

   e. Determine presence or absence of pulse

   f. External cardiac compression

      (1) Kneel beside victim

      (2) Locate mid-sternum

      (3) Place heel of hand on middle sternum with fingers pointing over ribs

      (4) Use only one hand

      (5) Lock elbow

      (6) Exert pressure straight down

      (7) Depress sternum 3/4 to 1-1/2 inches

      (8) Rate = 80-100 per minute

6. Steps in procedure infant victim (birth - 2 yrs)

NOTE: Demonstrated by assistant on infant manikin as instructor explains

   a. One rescuer

   b. Determine level of consciousness

   c. Open airway

      (1) Gently extend - head drops back slightly

      (2) DO NOT OVEREXTEND

d. Determine presence or absence of respirations

e. Give 4 quick puffs

  (1) Seal mouth over infant's mouth and nose

  (2) Puff air gently from cheeks

  (3) Give enough air to cause chest to rise

  (4) Rate - 20 per minute

f. Determine presence or absence of pulse

  (1) Don't check carotid

  (2) Check apical pulse

    (a) Two fingers over left nipple

    (b) Mid-nipple line

g. External cardiac compressions

  (1) Be sure patient is on hard surface

  (2) Locate middle of sternum - mid-nipple line

  (3) Place two fingers on sternum parallel to sternum at mid-nipple line

  (4) Pressure straight down

  (5) Depress sternum 1/2 to 3/4 inch

  (6) Rate - 100 per minute

  (7) Don't lift fingers

h. Compression to breathing ratio - 5 compressions to one puff

7. Precautions to observe during CPR

  a. Don't interrupt for more than 5 seconds

    (1) During intubation - not more than 15 seconds

    (2) When moving up and down stairway not more than 15 seconds

b. Don't move victim to more convenient place until stable and ready to transport

c. Never compress xiphoid process

d. Never remove heel of hand from sternum

e. Don't rest fingers on victim's ribs during compression

f. Sudden or jerking movements should be avoided

E. Questions From Students

III. SUMMARY (5 min)

A. Review of Main Points

1. Airway obstruction

2. Artificial respiration

3. Early warning indicators of heart attack

4. Symptoms of heart attack

5. Techniques of cardiopulmonary resuscitation

B. Closing Statement: You may be wondering how is it possible to accomplish all the necessary steps within such a short period of time. It can be done, as only seconds elapse between steps, this is why practice is so very important, time is essential in CPR and it will be working against you.

THIRD through FIFTH HOUR Practical Exercise

I. INTRODUCTION (5 min)

A. Opening Statement: We have demonstrated techniques of cardiopulmonary resuscitation. Now you will practice these techniques.

B. Objectives:

1. Given an adult manikin, demonstrate the sequential manual maneuvers to remove a foreign body obstruction from the airway of conscious victim to include: back blows and manual thrusts.

2. Given an adult manikin, demonstrate the sequential manual maneuvers to remove a foreign body obstruction from the airway of an unconscious victim to include: back blows, manual thrusts and finger probe.

3. Given an adult manikin demonstrate in sequence, CPR of a cardiac arrest to include both a one-man and a two-man rescue team.

4. Given an infant manikin, demonstrate in sequence the proper technique for resuscitating an infant.

C. Class Procedure and Lesson Tie-in:

During this exercise you will practice techniques of cardiopulmonary resuscitation. You will actually be applying techniques discussed in the previous two hours.

II. APPLICATION (170 min)

A. General Plan for Conducting Practical Exercise

1. Students will divide in half

2. One groups of half the class will then divide into three groups

3. Every student will be given an equal opportunity to demonstrate each skill

NOTE: Refer to Annex B

B. Direction to students

1. It is imperative that all students listen to all briefing sessions, instructions and demonstrations given you prior to the start of any given PE station.

2. It is expected you will move from one PE station to another in a quiet, orderly fashion.

3. Secondary instructors will assist you in gaining skills at each station. Please feel free to ask questions at any time.

4. All students will be expected to help in keeping all areas neat and clean.

5. All equipment and supplies used will remain at the PE station.

C. Directions to instructors

1. Primary instructor

    a. Directs and assists in setting up PE stations.

    b. Consults with Operations Manager and NCOIC in obtaining equipment necessary for the conduct of practical exercises.

    c. Directs student and secondary instructor activities.

    d. Coordinates general plan for PE with revisions as indicated.

    e. Assists in the supervision and evaluation of student performance.

    f. Assists with clean-up and collection of used equipment at the end of the practical exercise period.

    g. Maintains records of individual student performance.

2. Secondary instructors

    a. Assists primary instructor as indicated.

    b. Sets up PE stations.

    c. Supervises and evaluates student performances.

    d. Demonstrates skill as necessary prior to student performance.

    e. Identifies those students requiring further practice.

    f. Supervises clean-up and collection of equipment at end of exercise keeping note on equipment needs.

g. Consults with primary instructor on problems with PE stations suggesting changes as indicated.

h. Instructs and cautions students when skill to be demonstrated on another student.

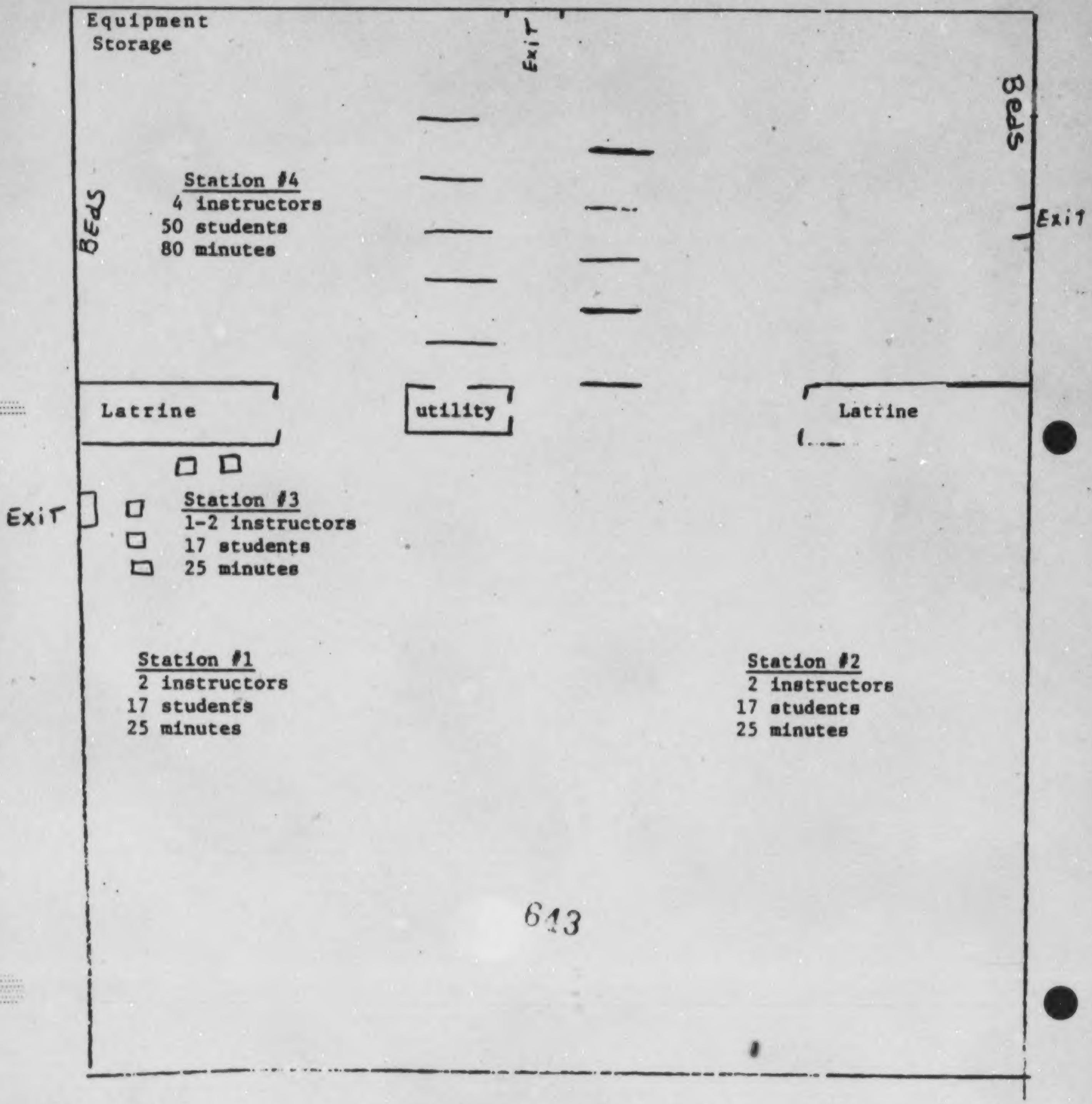
III. REVIEW (5 min)

A. Questions From Students

B. Review of Main Points

1. Conscious obstructed airway
2. Unconscious obstructed airway
3. Adult cardiac arrest with one rescuer
4. Adult cardiac arrest with two rescuers
5. Infant cardiac arrest

ANNEX A


Equipment
Storage
EXIT
Beds
Station #4
4 instructors
50 students
80 minutes
BEDS
Exit
Latrine
utility
Latrine
EXIT
Station #3
1-2 instructors
17 students
25 minutes
Station #1
2 instructors
17 students
25 minutes
Station #2
2 instructors
17 students
25 minutes

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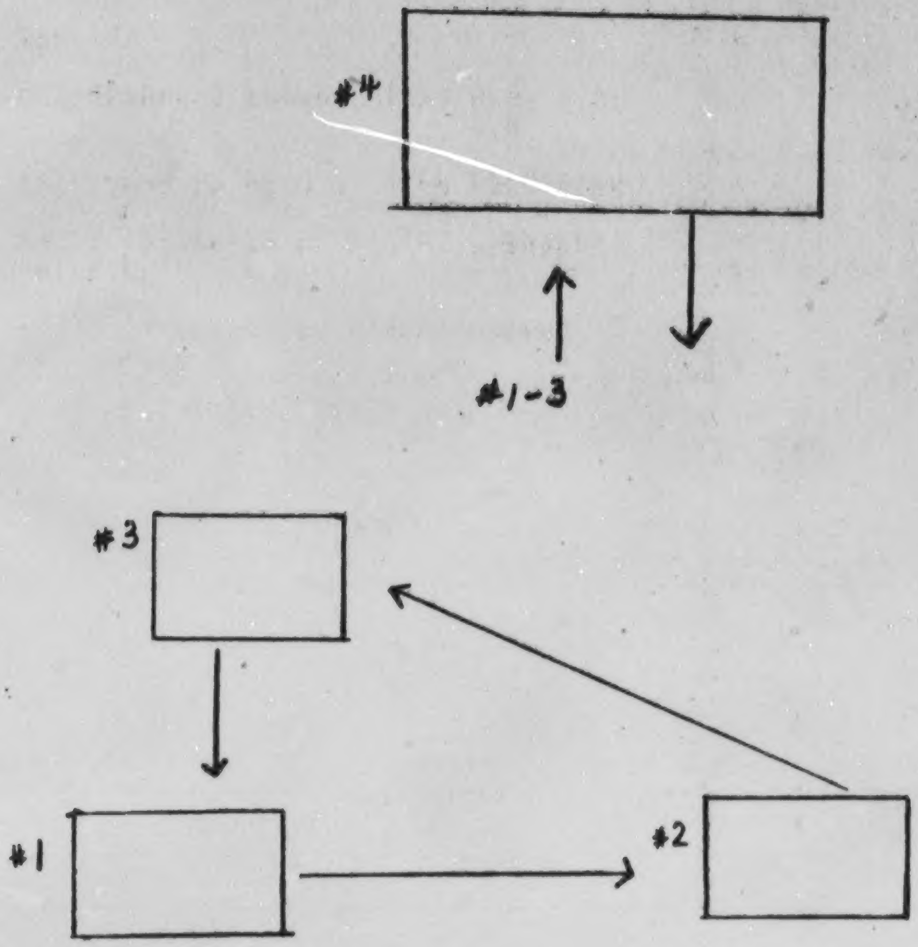
ANNEX B

LP 65-340-026
087

Flow Chart



Description of P.E. Stations

Station #1 - Conscious Obstructed Airway

Students will perform the steps in the procedure required to clear the airway of a conscious victim with an obstructed airway on each other under supervision.

Station #2 - Unconscious Obstructed Airway

Students will perform the steps in the procedure required to clear the airway of an unconscious victim with an obstructed airway on each other under supervision.

Station #3 - Infant Resuscitation

Five infant manikins will be used by the students to practice the steps in the procedure for resuscitation of an infant.

Station #4 - One and Two-Man Rescue of an Adult Victim

Ten adult manikins will be used by the students to practice the steps in the procedure for resuscitation of an adult victim utilizing one and two-man rescue teams.

NOTE: At no time will a manikin be left with no students practicing the appropriate rescue technique.

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CPT D.K.Schwegler

ACADEMY OF HEALTH SCIENCES, USA
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ENLISTED INSTRUCTIONAL BRANCH

IM 65-340-026
087

Cardiopulmonary Resuscitation

There is nothing more miraculous or rewarding than to see a person "clinically dead" returned to life by effective cardiopulmonary resuscitation. Sudden cessation of respirations and/or pulse represents the greatest medical emergency requiring immediate and effective resuscitative measures. As clinical specialists you will find yourselves in a position requiring you to initiate those immediate and effective resuscitative measures. There will be few other times when you will need to think faster or with more precision than during an arrest situation.

Airway obstruction, in a conscious victim, may be noted by: it's sudden onset, the victim's inability to speak, the use of the universal "distress signal of choking," the victim's dusky color, labored respirations and the lack of, or inability to detect respirations. The steps in the procedure to relieve an obstructed airway in a conscious victim include: 1) asking the victim if he can speak 2) delivering four back blows (exact technique demonstrated) and 3) delivering four abdominal thrusts (Heimlich maneuver) or chest thrusts (exact technique demonstrated). Chest thrusts are used in place of abdominal thrusts when gross obesity or advanced pregnancy prevent the rescuer from reaching around the abdomen.

When a victim of an airway obstruction is unconscious the steps to remove the obstruction are as follows: 1) determine the level of consciousness, "shake and shout" 2) open the victim's airway 3) determine the presence or absence of respirations 4) attempt to ventilate victim 5) reposition victim's head and once again attempt to ventilate 6) deliver four back blows 7) deliver four manual thrusts either abdominal or chest thrusts 8) look for foreign body 9) attempt to ventilate and 10) repeat cycles until airway is clear. The exact procedure is demonstrated to the class by two assistant instructors as the primary instructor presents the steps in each procedure.

Artificial respirations may be delivered by two different methods. Mouth-to-mouth artificial respiration is used in most instances when artificial respiration is required. Mouth-to-nose artificial respiration is used when: 1) it is impossible to open the victim's mouth 2) it is impossible to ventilate through the mouth 3) the victim's mouth is seriously injured 4) it is difficult to achieve a tight seal and 5) for some reason the nasal route is preferred. The steps in the procedure for artificial respiration are then demonstrated. Each specific method of artificial respiration is demonstrated in turn.

Some of the common errors in performing artificial respiration are: 1) inadequate neck extension 2) inadequate force and volume in breathing 3) lack of a tight seal 4) failure to seal the nose during mouth-to-mouth and 5) failure to open the mouth on exhalation during mouth-to-nose.

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ANNEX D

Equipment Needed

Adult manikins	10
Infant manikins	5
Alcohol preps	500
Sheets	10
Tables	5
Endotracheal tubes, sizes 8.0, 8.5, 9.0	3
Laryngescope handle, with batteries	1
Adult laryngescope blade, straight with bulb	1
Adult laryngescope blade, curved with bulb	1
Forceps, Magill, pair	1

ACADEMY OF HEALTH SCIENCES, USA M 65-340-026-1
NURSING SCIENCE DIVISION 087
ENLISTED INSTRUCTIONAL BRANCH

Cardiopulmonary Resuscitation

Objectives:

1. Given a list, select the signs and symptoms of a complete airway obstruction.
2. Identify the steps that can be taken to provide an open airway.
3. Given an adult manikin, demonstrate the sequential manual maneuvers to remove a foreign body obstruction from the airway of conscious victim to include: back blows and manual thrusts.
4. Given an adult manikin, demonstrate the sequential manual maneuvers to remove a foreign body obstruction from the airway of an unconscious victim to include: back blows, manual thrusts and finger probe.
5. Identify when mouth-to-mouth and mouth-to-nose artificial respiration would be the method of choice.
6. Given a list, select the five symptoms of a heart attack.
7. Define cardiac arrest as given in class.
8. State the five signs of cardiac arrest.
9. Given a list, select the precautions to observe when applying CPR.
10. Given a list, select the sequential steps of CPR for a cardiac arrest.
11. Given an adult manikin demonstrate in sequence, CPR of a cardiac arrest to include both a one-man and a two-man rescue team.
12. Given an infant manikin, demonstrate in sequence the proper technique for resuscitating an infant.

One complication of performing artificial respiration is air in the stomach. This causes pressure on the lungs as a result of pushing into the diaphram. Air in the stomach may impair blood return to the heart. It also increases the likelihood of vomiting.

The second complication of artificial respiration is vomiting. Should a victim begin to vomit all resuscitative efforts need to be stopped immediately and the head turned to one side. The mouth and throat are then cleared. If possible, the head should be lowered.

The major cause of a cardiac arrest is a heart attack. The symptoms of a heart attack are: 1) pain, which may be in the chest, shoulder and/or back, may radiate to the arm(s), and may cause the victim to complain of burning or indigestion 2) nausea 3) weakness 4) diaphoresis or excessive sweating and 5) dyspnea or difficulty breathing.

There are three definitions which should be understood when considering cardiopulmonary resuscitation. The first is cardiac arrest which is the sudden and unexpected cessation of the heart and effective circulation. Clinical death (sudden death) is the sudden and unexpected cessation of breathing and functional circulation. Finally, biological death occurs 4-6 minutes after clinical death.

The signs of cardiopulmonary arrest are: 1) absence of a pulse 2) absence of breathing 3) dilated pupils 4) cyanosis and 5) lack of extremity movement. The technique of cardiopulmonary resuscitation for an adult victim with one and two rescuers present is then demonstrated. Also, the technique for the resuscitation of an infant is demonstrated.

Some of the precautions to observe when doing CPR include not interrupting the procedure for more than five seconds,except during intubation,and when moving up or down a stairway and then not for more than 15 seconds. Another precaution to observe is not attempting to move the victim to a more convenient place until stable and ready for transport. A third precaution is to never compress over the xiphoid process, thereby, preventing fracture of the process and possible internal injuries. Additional precautions are as follows: never remove the hand from sternum; do not rest the fingers of your hands on the victim's ribs during compressions; and sudden or jerking movements should be avoided.

It may seem as though many things happen simultaneously during cardiopulmonary resuscitation. In actuality only seconds may elapse between steps making repetition and practice vital to your effective performance of CPR.

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ENLISTED INSTRUCTIONAL BRANCH

M 65-340-026-2
067

Obstructed Airway

I. CONSCIOUS VICTIM

   A. Initial Sequence

      1. Ask "CAN YOU SPEAK?"

      2. Four back blows

      3. Four manual thrust

   B. If unsuccessful, alternate until effective, or person becomes unconscious

II. BECOMES UNCONSCIOUS

   A. Initial Sequence

      1. Place in supine (face-up position)

      2. Open airway and attempt to ventilate

      3. If unsuccessful:

         a. Roll patient towards you

         b. Four back blows

         c. Return victim to supine position

         d. Four manual thrusts or alternate chest method

         e. Open mouth using cross-finger technique or jaw lift, finger probe to clear airway

      4. Reposition head and attempt to ventilate

   B. If unsuccessful, repeat sequence of back blows, manual thrusts and clearing of airway as in step three above, in rapid sequence

III. UNCONSCIOUS VICTIM

   A. Initial Sequence

      1. Establish unresponsiveness. Shake and shout, call for help

*2. Establish airway, check for breathing and attempt to ventilate

3. If unable to ventilate, reposition head and attempt to ventilate again

4. If unsuccessful:

   a. Four back blows

   b. Four manual thrusts

   c. Open mouth using cross-finger technique or jaw lift, finger probe and clear airway.

5. Reposition head and attempt to ventilate

B. If unsuccessful, repeat step four above in rapid sequence

*In cases of suspected neck injury the airway is opened by modified jaw thrust rather than head tilt.

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

M 65-340-026-3
087

Techniques of Cardiopulmonary Resuscitation

Definitions

A. Cardiac arrest is the sudden and unexpected cessation of the heart and effective circulation.

B. Clinical death (sudden death) is the sudden and unexpected cessation of breathing and functional circulation.

C. Biological death occurs 4-6 minutes after clinical death.

1. Steps in procedure of UNWITNESSED ADULT CARDIAC ARREST with ONE rescuer present
    a. Determine level of consciousness
    b. Open airway
    c. Determine presence or absence of respirations (simultaneously, look, listen and feel)
    d. Give 4 full quick breaths
    e. Determine presence or absence of pulse (carotid)
    f. Find landmark, placement of hands
    g. Perform external cardiac compressions
    h. Continue compression to breathing ratio 15:2 or at a rate of 80 compressions per minute.
2. Steps in procedure of ADULT UNWITNESSED CARDIAC ARREST with TWO rescuers present
    a. First rescuer determines presence or absence of respirations (open airway; look, listen and feel)
    b. First rescuer gives four quick, full breaths
    c. First rescuer determines presence or absence of pulse (carotid)
    d. Second rescuer initiates external cardiac compression. Five compressions to one ventilation

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e. First rescuer interposes ONE full breath between fifth upstroke and first downstroke

f. Compressions smooth, even, and uninterrupted for ventilations.

g. To change:

(1) First rescuer says "WE WILL CHANGE ON 3"

(2) Second rescuer gives one quick, full breath on "3" and moves to position opposite first rescuer and locates landmark

(3) First rescuer continues to compress and count till "3" then moves to victim's head

(4) Second rescuer gives fourth and fifth compressions, NO DELAY BETWEEN COUNT "3" AND "4"

(5) First rescuer gives breath on "5"

3. Steps in procedure infant victim (birth to 2 yrs)

a. One rescuer only

b. Determine level of consciousness

c. Open airway

(1) Gently extend - head drops back slightly

(2) DO NOT OVEREXTEND

d. Determine presence or absence of respirations

e. Give 4 quick puffs

(1) Seal mouth over infant's mouth and nose

(2) Puff air gently from cheeks

(3) Give enough air to cause chest to rise

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Pages 647-652 omitted; numbers missing; no information missing.

f. Determine presence or absence of pulse - (apical using two fingers under left nipple)

g. Give external cardiac compression - two fingers over mid-sternum. Compress 1/2-inch to 3/4-inch.

h. Five compressions to one ventilation at a rate of 100-120 compressions to 20-24 ventilations per minute.

CPT L.W.Richard
LP 65-340-027
057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION

Anaphylactic Shock (2 hours)

COURSES PRESENTED TO: 91C20 Clinical Specialist (Primary Technical)

PLACE: Classroom, Practical Exercise area

REFERENCES:

AR 40-562
TM 8-230
TB Med 114
American Academy of Orthopaedic Surgeons. Emergency Care and Transportation of the Sick and Injured. Menasha: George Banta Co., 1971.
Beland, Irene L. & Passos, Joyce Y. Clinical Nursing: Pathophysiological and Psychological Approaches. 3d ed. New York: Macmillan Publishing Co., Inc. 1975.
Brunner, Lillian S. & others (1). The Lippincott Manual of Nursing Practice. Philadelphia: J. B. Lippincott Co.,
______________ (2). Textbook of Medical-Surgical Nursing. 3d ed. Philadelphia: J.B. Lippincott Co., 1975.
Guyton, Arthur. Textbook of Medical Physiology. 4th ed. Philadelphia: W.B. Saunders, 1971.
Frolich, Edward D. Pathophysiology. 2d ed. Philadelphia: W. B. Saunders, 1976.
Shafer, Kathleen N. & others. Medical-Surgical Nursing. 6th ed. St. Louis: C.V. Mosby Co., 1975.
Sharpe, John & others. Management of Medical Emergencies. 2d ed. New York: McGraw-Hill, 1969.
Wood, Lucile A. (ed). Nursing Skills for Allied Health Sciences. Vol III. Philadelphia: W.B. Saunders Co., 1972.

STUDY ASSIGNMENT: Before class: Study TM 8-230, chap 6, Sec III; After class: Review TM 8-230, chap 6, Sec III.

STUDENT UNIFORM AND EQUIPMENT: Duty uniform

TOOLS, EQUIPMENT, AND MATERIALS: M 65-340-027-1 issued at beginning of class

PERSONNEL: One (1) primary (665005K) instructor; ten (10) secondary instructors, ANC or 91C30

INSTRUCTIONAL AIDS: Magnetic chalkboard, chalk eraser, overhead projector, transparencies T 65-340-027-1 thru 3 (See Annex D) placards (See Annex E)

TROOP REQUIREMENTS: Not applicable

TRANSPORTAION REQUIREMENTS: Not applicable

METHOD OF INSTRUCTION: Lecture, Practical Exercise

FIRST HOUR

I. INTRODUCTION (2 min)

A. Opening Statement: Anaphylactic shock is an acute, life-threatening reaction that demands immediate emergency treatment. Anaphylactic reactions vary widely from the most vague subjective symptoms felt only by the patient himself/herself, to the most obvious objective symptoms recognizable to those health care personnel trained to recognize and assess reactions in order that proper emergency measures can be instituted immediately. The point cannot be stressed enough that the key to good patient care is an awareness and recognition of anaphylactic reactions as they are indeed common in all patient care settings. As future clinical specialists, you can play a major role in helping to prevent the most acute and fatal form of this severe reaction just by being knowledgeable at all times to institute proper emergency treatment measures immediately. This block of instruction will be aimed at discussing this life-threatening emergency and your role as a future clinical specialist should a reaction occur in the area you may be assigned to.

B. Objectives:

1. Given a list, select the correct definition of anaphylactic shock as given in class.
2. Select from a given list conditions which are known to commonly precipitate anaphylactic shock.
3. Given a list, identify those symptoms one might see in anaphylactic shock.

4. List 10 major emergency treatment measures a 91C20 might perform or assist with in the treatment of a patient experiencing anaphylactic shock.

5. Practice and demonstrate cardiopulmonary resuscitation techniques to include: Heimlich maneuver, unconscious obstruction airway, one-man and two-man rescue team and infant resuscitation.

*6. Given a prepared guide, identify and check the contents of an anaphylactic tray.

C. Class Procedure and Lesson Tie-in:

This class is a 1 hour block of didactic instruction within a larger block of instruction (annex) relating to ambulatory care as listed in the 91C20 POI. This annex follows prior blocks of instruction on cardiopulmonary resuscitation and other life-saving measures. A one-hour practice session will follow this instructional hour with actual identification and checking of contents contained in an anaphylactic tray. You will also be given additional opportunity to practice skills in CPR as you did last hour.

II. EXPLANATION (37 min)

A. Definition of anaphylactic shock

NOTE: Use overhead with transparency

1. A generalized, acute, life-threatening reaction occurring with dramatic suddenness usually after a patient has been exposed to or received some foreign substance or agent.

2. Closer definition breakdown

   a. Generalized -- involving entire body and its systems

   b. Acute -- sharp, having severe symptoms of short length

*Terminal Objective

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c. Life-threatening -- capable of causing death

d. Reaction -- a response as a reault of stimulation

B. Common Causes

NOTE: Use overhead with transparency (s)

1. Insect bites and stings
2. Penicillin, and other drugs (anesthetics)
3. Horse serum (used as basis for vaccines and innoculations)
4. Chick embryo (used as basis for vaccines and innoculations)
5. Mismatched blood
6. Contrast media containing iodide

C. Symptoms

NOTE: Use overhead with transparencies

NOTE: Symptoms arranged most vague --- profound --- death. Symptoms also arranged in beginning reaction to full blown shock symptoms. Symptoms do not occur in specified order. Generally, the more rapid the onset of symptoms, the more profound and severe the reaction.

1. Subjective patient symptoms

QUESTION: What do we mean by the word "subjective?"

ANSWER: Patient only feels, cannot be accurately assessed. Patient has to tell you he is feeling or experiencing symptoms.

a. Apprehension--uneasiness, sense of warmth

b. "I don't feel quite right"

c. Complaints of headache

NOTE: This is first clue or indication that something is wrong and something may occur. Observe closely.

2. Objective patient symptoms

QUESTION: What is meant by the term "objective?"

ANSWER: Those symptoms that can be observed and assessed accurately.

a. Nervous

b. Scratching--ears, eyes, back, soles of feet, palms of hands, injection site

    (1) becomes generalized

    (2) increases in intensity

c. Flushed face

d. Watery eyes, runny nose

e. Coughing and sneezing

f. GI symptoms--abdominal pain, diarrhea

g. Appearance of hives (urticaria), welts, rash

h. Edema (swelling)--face, hands, other body parts

NOTE: At this time there is no time to be wasted

i. Respiratory distress

    (1) Hoarseness

    (2) Tightness in chest

    (3) Swallowing impaired (dysphagia)

    (4) Dyspnea (difficult breathing)

    (5) Cyanosis (bluish skin color)

    (6) Respiratory stridor (harsh sound during inspiration, larynx obstructed

QUESTION: If the patient is experiencing these symptoms, i.e., (1) - (6), what might you assume about the respiratory status of the patient?

ANSWER: Not getting enough oxygen--airway obstruction

j. Increased pulse which rapidly fades away

k. Rapidly falling BP

l. Unconsciousness

m. Convulsions leading to coma

n. DEATH

D. Emergency Treatment

NOTE: Use placards

NOTE: Treatment is arranged in most logical treatment order to sustain life. Each patient situation will demand different steps. It is hoped patient will respond with EPI and no further treatment need be instituted. Main role is to maintain patient airway, vital signs, obtain help, initiate CPR and assist where necessary.

1. Obtain help
2. Anaphylactic tray
3. Epinephrine SQ (.5cc 1:1000 in any available site not stopping to prepare site)
4. Discontinue agent
    a. Blood
    b. Antibiotic
5. Vitals
    a. BP
    b. Pulse
    c. Respirations
6. Patient airway
    a. Oxygen (masks, prongs, ambu bag)
    b. Intubation tray
    c. Suction

7. Intravenous fluid line

8. Position patient

9. Tourniquet to extremity if injection received

10. CPR

NOTE: Never leave patient unattended. Keep observing patient if responds to treatment. Reaction may reoccur.

E. Questions From Students

III. SUMMARY (1 min)

A. Review of Main Points

1. Definition

2. Common causes

3. Symptoms

4. Emergency Treatment

B. Closing Statement: Anaphylactic shock is a severe life-threatening situation that potentially surrounds us daily in all patient care settings as well as our daily lives. Through proper education of health care personnel, individuals like yourself, anaphylactic shock fatalities may be lessened by just being aware of its common causes, recognizing and assessing its symptoms and being ready at all times to institute proper emergency measures when an anaphylactic reaction/shock does occur.

SECOND HOUR

I. INTRODUCTION (2 min)

A. Opening Statement: Last hour we discussed the definition, common causes, symptoms and emergency treatment of anaphylactic shock. When emergency treatment is needed for a patient experiencing anaphylactic shock, seconds count. Everyone working in a patient care or ambulatory care setting should be familiar with the location of what comprises emergency equipment. Should anaphylactic shock present itself in the area you may be assigned to, you will be asked to quickly bring the necessary equipment to the patient so that active resuscitation efforts can begin without delay.

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B. Objectives:

1. Given a prepared guide, identify and check the contents of an anaphylactic tray.

2. Practice and demonstrate cardiopulmonary resuscitation techniques to include: Heimlich maneuver, unconscious obstructed airway, one-man and two-man rescue team and infant resuscitation.

C. Class Procedure and Lesson Tie-in:

This practical exercise directly relates to the previous didactic hour of instruction on anaphylactic shock and cardiopulmonary resuscitation techniques. This hour will be utilized to identify emergency equipment and as a reteach and further practice session on CPR techniques and procedures.

II. APPLICATION (41 min)

A. Arrangement of Students

Refer to Annex A

B. Directions to Students

1. Divide up into groups of fifty. The first fifty will go directly to the PE station labeled "Anaphylactic Box." The second group will divide into separate groups of 12-14 at all other stations as determined by their interest and weakness in CPR skills they wish to practice.

2. Any student not actively engaged in CPR techniques will assume the role of coach to those students practicing.

3. Individual discipline will be enforced if necessary.

4. The role of instructors is to guide you as you practice and identify emergency equipment.

5. Do Not remove any of the emergency drugs or equipment from PE station "Anaphylactic Box." Individual discipline will be enforced if necessary.

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6. At the end of approximately 22 minutes, both groups will reverse to give all students practice in both areas.

C. Directions to Instructors

1. Those secondary instructors assigned to PE station "Anaphylactic Box" should watch carefully to make sure all equipment/drugs remain at station. Drugs, syringes and needles will be secured to styrofoam insert to discourage removal by students. Identify equipment to student and explain use of item as needed.

2. Those secondary instructors assigned to CPR PE stations will guide students as they identify those skills they wish to practice. This is an extra session on CPR. Work with students on gaining and refining skill as needed.

3. Set up PE stations prior to start of exercise hour.

4. Identify and enforce individual discipline as needed.

5. Supervise clean-up and proper storage of equipment at end of exercise.

6. Primary instructors role will be to direct set-up of PE stations, check equipment needs, coordinate general plan for conduct of practical exercise, assist with clean-up operation and assist with supervision.

7. No crucial rating student performance is needed in this practical exercise hour.

D. Students' Activities

(Refer to Annex C)

E. General Plan for Conducting Practical Exercise

(Refer to Annexes A, B, and C)

III. CRITIQUE (2 min)

A. Questions From Students

B. Review of Main Points

1. Identified and checked contents of an anaphylactic tray

2. Identified other emergency equipment

3. Practiced CPR procedures and skills:

   a. Heimlich Maneuver

   b. Unconscious obstructed airway

   c. One-man and two-man rescue team

   d. Infant resuscitation

C. Closing Statement: You have all had an opportunity to identify, check and become familiar with the contents of an anaphylactic box and practice CPR techniques. Should the occasion arise, you should now have a general understanding and knowledge of the equipment needed and used in a resuscitative effort as well as how to properly institute CPR efforts. This hour of practical exercise will be beneficial at some point in your career when seconds will count to save a patient's life for whatever reason that patient's life was placed in jeopardy.

ANNEX B

Materials/Equipment Needed

Adult Resusci-anni mannikins	-	10
Infant resuscitation mannikins	-	5
Alcohol swabs (prepackaged)	-	200
Paper towels, lg. packages	-	3
Waste receptacles	-	3
Sheets or similar pads/covering for floor	-	16
Tables	-	9
Prepared guides enclosed in plastic showing and describing contents of anaphylactic tray	-	12
Toolboxes, portable, steel enamel finish with removable tray, 2 carrying handles on top. Should be white in color and labeled with red letters (ANAPHYLACTIC TRAY or BOX)	-	4

Contents of each box: (multiply x 4 for total number needed)

Drugs and equipment for removable tray:

Aminophylline - ampule 2
RX box signifying sodium amobarbital - 1
Solu-Cortef - ampule 2
Benadryl - multidose vial 1 or ampule 1
Neo Synephrine - multidose vial 1 or ampule 1
Aramine - multidose or ampule 1
Sodium chloride - multidose or ampule 6
Sterile water for injection - ampule 1
Epinephrine 1:1000 with cartridge holder - 3
Child - Adult oropharyngeal airway - 1
Large Adult oropharyngeal airway - 1
Child oropharyngeal airway - 1
2cc syringe - 2
5cc syringe - 2
10cc syringe - 2
18 G needle - 2
20 G needle - 2
18 G needle, spinal - 1
20 G needle, spinal - 1
Bite Block - 1

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Tourniquet - 1
Alcohol sponges
One-half inch adhesive tape - 1
All medications secured on styrofoam insert.

Lower Section Box:

Blood pressure apparatus - 1
Stethoscope - 1
1000cc 5% glucose in water - 1
1000cc Normal Saline - 1
Adult intravenous infusion set - 1
Three-way stopcock with extension - 1
Intracath 16 G - 2

Ambu bags with masks - 4
Tracheostomy trays with 1 each of size 30, 33, 36 Portex, Shiley or Lanz controlled pressure trach tubes

Cutdown trays - 4
Intubation trays with laryngoscope, handle, blades and 1 each of size 32, 36 endotracheal (Lanz extra corpoeal) cuffed tubes - 4

12cc syringe - 4

Description, Drugs and Equipment of Anaphylactic Box

Drugs and Equipment for Removable Tray:

Aminophylline - Ampule 2
Solu-Cortef - Ampule 1
Benadryl - Multi-dose - vial 1 or ampule 1
Neo Synephrine - multi-dose vial or ampule 1
Box sodium Amobarbital - 1
Aramine - multi-dose vial 1 or ampule 1
Sodium Chloride - multi-dose vial or ampule 6
Sterile water for injection - ampule 1
Epinephrine 1:1000 with cartridge holder - 3
Child - Adult airway - 1
Large adult airway - 1
Medium adult airway - 1
Child airway - 1
2cc syringe - 2
5cc syringe - 2
10cc syringe - 2
18 G needle - 2
20 G needle - 2
18 G spinal needle - 1
20 G spinal needle - 1
Bite block - 1
Tourniquet - 1
Alcohol sponges
One-half inch adhesive tape - 1

Lower Section Tray:

Blood Pressure apparatus - 1
Stethoscope - 1
1000cc 5% glucose in water - 1
1000cc Normal Saline - 1
Adult intravenous infusion set - 1
Pediatric intravenous infusion set - 2
Three-way stopcock with extension - 1
Intracath 16 G - 2

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Description of PE Stations

NOTE: Bldg 1449 (PE Building)

Station #1 Anaphylactic Tray Contents

Fifty students will divide into groups of seven or six per group and assume positions at each of the four tables. One anaphylactic tray will be provided on each table. Each table of students with aid of secondary instructor will identify the contents of a standard anaphylactic tray using a prepared guide. Total number of students = 50; total number of instructors = 4; total time to completion of exercise - approximately 22 minutes.

Stations #2 through #4 Cardiopulmonary Resuscitation

While half students (50) are identifying contents of a standard anaphylactic tray, the other half of students (50) will individually be asked to then assume positions at PE station and mannikin providing that skill to practice. This PE block will be used only as a reteach, repractice session for all students to perfect individual techniques in CPR methods.

Station #2 - 1 man rescue (12 students)

Station #3 - Heimlich/Unconscious obstructed airway (12 students)

Station #4 - Two-man rescue (14 students)

Station #5 - Infant Resuscitation (12 students)

Skills for each station are identical to those presented in preceeding CPR PE. Role of instructors will be to give additional reinforcement to previous CPR PE and help each individual student gain additional expertise in technique. Total number of students = 50; total number of instructors = 8; total time to completion of exercise = approximately 22 minutes.

At end of first 22 minutes, both groups of students will reverse so each student will have opportunity to check contents of anaphylactic tray and practice CPR skills.

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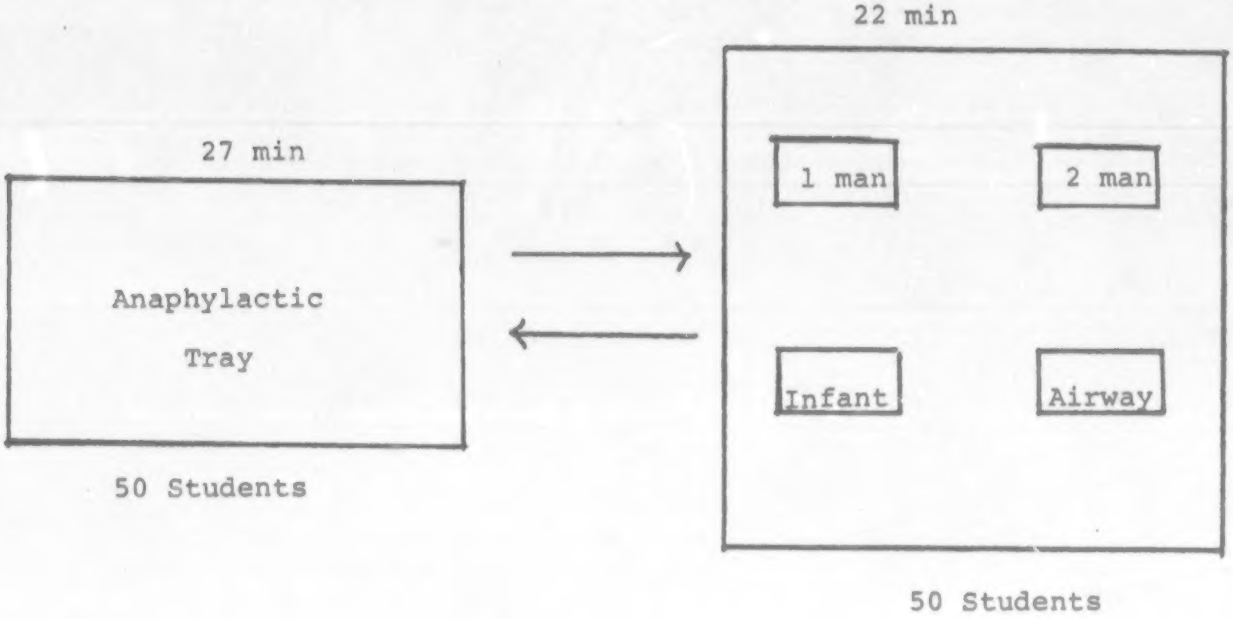
Total number of students = 50

Total number of Instructors =
Primary - 1
Secondary - 10

Total amount of PE time = 45 minutes


27 min
Anaphylactic
Tray
50 Students
22 min
1 man
2 man
Infant
Airway
50 Students

Transparencies

T 65-340-027-1	This transparency shows written definition of anaphylactic shock with additional breakdown of definition of medical terms within general definition.
T 65-340-027-2	This transparency shows the six common causes of anaphylactic shock.
T 65-340-027-3	This transparency shows the symptoms experienced by a patient in anaphylactic shock being divided into subjective and objective symptoms.

ANNEX E
INSTRUCTIONAL AIDS

Placards

Placards on distinctive color backing to show emergency treatment. Arrangement:

ANAPHYLACTIC SHOCK:

D. Emergency Treatment

1. Obtain help
2. Anaphylactic tray
3. Epinephrine SQ .5cc 1:1000
4. Discontinue agent
5. Vitals
6. Patient airway
7. Intravenous fluid line
8. Position patient
9. Tourniquet
10. CPR

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Anaphylactic Shock

Anaphylactic shock is an acute, life-threatening reaction that demands immediate emergency treatment. Anaphylactic reactions vary widely from the most vague subjective symptoms felt only by the patient to the most obvious objective symptoms recognizable to those health care personnel trained to recognize and assess reactions in order that proper emergency measures can be instituted immediately. The point cannot be stressed enough that the key to good patient care is an awareness and recognition of anaphylactic reactions as they are indeed common in all patient care settings. As future clinical specialists, you can play a major role in helping to prevent the most acute and fatal form of this reaction just by being knowledgeable of its common cause, recognizing its symptoms and being ready at all times to immediately institute proper emergency treatment measures. This block of instruction will be aimed at discussing this life-threatening emergency and your role as a future clinical specialist should a reaction occur in the area where you may be assigned.

Prior to any discussion of anaphylactic shock, a definition of anphylactic shock must be established so that everyone understnds what is meant by this term. For purposes of definition, then, anaphylactic shock can be defined as "a generalized, acute, life-threatening reaction occurring with dramatic suddenness usually after a patient has been exposed to or received some foreign substance or agent." To further clarify this definition, anaphylactic shock is a response by the body as a result of stimulation (reaction), in this case, an exposure to or actual receiving of some foreign substance or agent that involves the entire body and its systems (generalized), causing sharp, severe symptoms of short length (acute) capable of causing death (life-threatening).

The causes of anaphylactic shock are numerous. Throughout the years, however, researchers have classified six major common causes of anaphylactic shock. These common causes are: (1) insect bites and stings, (2) penicillin, anesthetics, and other drugs, (3) horse serum and (4) chick embryo utilized in making vaccines for inoculations, (5) mismatched blood, and (6) contrast media containing iodide. The point should be emphasized that even though a patient has never experienced a reaction to these common causes during prior years, there always exists a possibility that he/she could experience a reaction at any given time when exposed to or during administration of these substances or agents.

The symptoms of an anaphylactic reaction progressing to anaphylactic shock are varied and totally depend upon the individual and the severity of the reaction. Symptoms do not always occur in a logical specified order. It is not uncommon for a patient to experience one symptom or a combination of symptoms at one point in time. Generally speaking, the more rapid the onset of symptoms, the more profound and violent the reaction will be.

One of the first symptoms that one might see in a patient in impending anaphylactic shock will be the patient expressing subjective feelings of apprehension or a sense of uneasiness along with a sense of warmth. He/she may state "I don't feel quite right." Complaints of headache are common. These subjective feelings and symptoms offer a first clue or indication that something is wrong and that something may occur.

One may next observe objective symptoms of nervousness in the patient along with scratching, particularly around an injection site, ears, eyes, back, soles of the feet and palms of the hands. The peculiar characteristic of scratching in an anaphylactic reaction is that it becomes generalized over the entire body and increases in intensity. The patient may exhibit a flushed face, watery eyes, a runny nose along with coughing and sneezing. He/she may complain of gastrointestinal symptoms such as abdominal pain or diarrhea.

The appearance of hives (urticaria), welts or rash accompanied by edema (swelling) of the face, hands and other body parts heralds a medical emergency requiring prompt treatment. Usually, but not always, the appearance of hives, welts or rash begins at the site of injection and rapidly extends over the entire body.

If the patient is not adequately treated at this time, or fails to respond to emergency treatment, respiratory distress rapidly ensues. The patient may develop hoarseness, a general tightness in the chest accompanied by impairment of swallowing (dysphagis). Very rapidly the patient becomes cyanotic (bluish skin color) and gasps for air with a characteristic harsh shrill sound heard during inspiration (respiratory stridor) due to the larynx being obstructed. Because the patient's airway is obstructed, he/she is not receiving adequate oxygen. At this point, anaphylactic shock develops.

The patient's pulse will increase sharply and rapidly fade away. The patient's blood pressure will dramatically fall and he/she will lose consciousness. One may see the patient experiencing convulsions of a generalized nature with the patient rapidly sinking into a deep coma with death becoming

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imminent. Death is usually caused by an occluded airway, lack of adequate oxygenation, severe circulatory collapse and cardiac arrest.

Emergency treatment for anaphylactic shock is based on life-saving measures in efforts of sustaining the patient's life. Just as individual symptoms vary, emergency treatment measures also will vary. Each individual reaction will dictate what measures to employ and in what sequence they are employed. Some treatment measures will be performed simultaneously while others will be instituted only if necessary to sustain the patient's life.

The first emergency treatment measure is to obtain proper help. Never leave the patient unattended even if it means yelling for help. The anaphylactic tray should be located and brought to where the patient is. This tray has the necessary resuscitative equipment and drugs that may be used to save the patient's life. Everyone should be aware of its contents and where it is kept on the ward.

The drug of choice given to anaphylactic reaction or shock victims is Epinephrine .5cc S.Q. of the 1:1000 concentration which may be repeated every 5-10 minutes as necessary. If the patient is receiving any agent such as blood or antibiotic I.V., discontinue the agent to prevent a further severe reaction. Always tell the nurse of this action.

Maintain a constant check and assessment of the patient's vital signs and report current readings or changes of blood pressure, pulse and respiration. If changes are noted in any one of the vital signs, be prepared for further treatment.

It is of vital importance to maintain a patient and open airway. Locate and have readily available an oxygen source and administer oxygen as directed by either a mask, nasal prongs, or ambu bag if necessary. If an adequate airway is not established intubation of the patient may be necessary. A suction apparatus should be readily available should suction be needed.

Assess the patient for an intravenous fluid line and, if necessary, either start or assist in instituting an I.V. line if the patient's condition is deteriorating. If the blood pressure falls, position the patient so that the patient's head is lower than the feet to encourage blood flow to the brain and aid circulation to the vital centers and organs of the body (Trendelenburg position).

If you should find yourself in a situation where emergency treatment or help is not readily available, and if the patient may have received an injection recently, apply a tourniquet to the injected extremity closest to the heart to delay further absorption of the injected agent into the general circulation. This will help prevent a more severe reaction from developing. Transport immediately to an area where emergency aid can be given. Keep assessing the patient during transport for any signs of serious patient deterioration and be ready to institute further emergency treatment measures as necessary.

The patient in serious, acute anaphylactic shock frequently experiences cardiac arrest. If the condition warrants, initiate and assist with CPR. Never under any circumstances leave the patient unattended for even one second. If the patient responds to emergency treatment measures, continue to observe and assess the patient since reactions have been known to re-occur. Be ready at all times to re-institute proper emergency measures if necessary.

The definition of anaphylactic shock was stated and discussed. The six common causes of anaphylactic shock were listed and discussed. The wide range of symptoms one might see in a patient with impending anaphylactic shock were explored and discussed. The proper emergency treatment measures a clinical specialist (91C20) might perform or assist with in treating a patient experiencing anaphylactic shock were listed and discussed.

Anaphylactic shock is a severe life-threatening situation that potentially surrounds us daily in all patient care settings as well as our daily lives. Through proper education of health care personnel, individuals like yourself, anaphylactic shock fatalities may be lessened by just being aware of its common causes, recognizing and assessing its symptoms and being ready at all times to institute proper emergency measures when an anaphylactic reaction/shock does occur.

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ENLISTED INSTRUCTIONAL BRANCH

Anaphylactic Shock

Objectives:

1. Given a list, select the correct definition of anaphylactic shock as given in class

2. Select from a given list, conditions which are known to commonly precipitate anaphylactic shock.

3. Given a list, identify those symptoms one might see in anaphylactic shock.

4. List 10 major emergency treatment measures a 91C20 might perform or assist with the treatment of a patient experiencing anaphylactic shock.

5. Practice and demonstrate cardiopulmonary resuscitation techniques to include: Heimlich maneuver, unconscious obstructed airway, one-man and two-man rescue teams, and infant resuscitation.

6. Given a prepared guide, identify and check the contents of a anaphylactic tray.

NOTES

A. Definiton of Anaphylactic Shock: A generalized, acute, life-threatening reaction occurring with dramatic suddenness usually after a patient has been exposed to or received some foreign substance or agent.

B. Common Causes

1.

2.

3.

*Terminal objective

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4.

5.

6.

C. Symptoms

1. Subjective symptoms

a.

b.

c.

2. Objective symptoms

a.

b.

(1)

(2)

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c.

d.

e.

f.

g.

h.

i.

(1)

(2)

(3)

(4)

(5)

(6)

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j.

k.

l.

m.

n.

D. Emergency Treatment

1.

2.

3.

4.

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5.

6.

7.

8.

9.

10.

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ENLISTED INSTRUCTIONAL BRANCH

Anaphylactic Shock

Objectives:

1. Given a list, select the correct definition of anaphylactic shock as given in class
2. Select from a given list, conditions which are known to commonly precipitate anaphylactic shock.
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4. List 10 major emergency treatment measures a 91C20 might perform or assist with the treatment of a patient experiencing anaphylactic shock.
5. Practice and demonstrate cardiopulmonary resuscitation techniques to include: Heimlich maneuver, unconscious obstructed airway, one-man and two-man rescue teams, and infant resuscitation.
6. Given a prepared guide, identify and check the contents of a anaphylactic tray.

NOTES

A. Definiton of Anaphylactic Shock: A generalized, acute, life-threatening reaction occurring with dramatic suddenness usually after a patient has been exposed to or received some foreign substance or agent.

B. Common Causes

1.

2.

3.

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*Terminal objective

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4.

5.

6.

C. Symptoms

1. Subjective symptoms

a.

b.

c.

2. Objective symptoms

a.

b.

(1)

(2)

c.

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d.

e.

f.

g.

h.

i.

(1)

(2)

(3)

(4)

(5)

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(6)

j.

k.

l.

m.

n.

D. **Emergency Treatment**

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

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SFC Mattes

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*LP 65-340-028
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Administering Immunizations (4 hours)

COURSES PRESENTED TO: 300-91C20, Clinical Specialist Course (Primary Technical)

PLACE: Classroom

REFERENCES:

TM 8-230, Chapter 6, Section III
AR 40-562
TB Med 114
Massachusetts General Hospital, Department of Nursing, Massachusetts Manual of Nursing Procedures. Boston: Little, Brown & Co., pp 139-141.
Sutton, Audrey L., Bedside Nursing Techniques in Medicine & Surgery. 2nd ed. Philadelphia: W.B. Saunders Co., 1969, pp 76080.
Thompson, Ella M. and Rosdahl, Caroline B. Textbook of Basic Nursing. 2nd ed. Philadelphia: J.B. Lippincott Co., 1973, pp 325-326, pp 330-338.
Wood, Lucile A. (ed.) Nursing Skills for Allied Health Sciences, Vol I & III. Philadelphia: W.B. Saunders Co., 1972.

STUDY ASSIGNMENT: Before class, read TM 8-230, Chapter 6, Sect III, AR 40-562.

STUDENT UNIFORM AND EQUIPMENT:

Duty uniform. All personnel will wear teeshirt. Females must wear proper under garments.

TOOLS, EQUIPMENT, AND MATERIALS: M 65-340-028-1 issued at beginning of class. 3 each - 3 cc syringe, 3 each - 22-25 gauge needles, 3 each - amples or vials of N/S, 5 each - alcohol pads/Betadine pads, issued at each station. Ten copies of AR 40-562 to be placed at Station #4. M 65-340-028-2, 240-1cc syringes, 120 - 3cc syringes, 360 23-25 gauge needles, 1000 alcohol pads, issued at beginning of PE.

PERSONNEL:

One 91C instructor for 1 L; one 91C instructor, two 91C's demonstrators for 1 D; twenty 91C instructors for 2 hr PE.

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*This Lesson Plan supersedes LP 65-340-028, 057.

INSTRUCTIONAL AIDS: 1 Screen, 1 overhead projector, 4 manikins, 4 transparencies - see Annex A.

TROOP REQUIREMENTS: None

TRANSPORTATION REQUIREMENTS: None

METHOD OF INSTRUCTION: 1 hr Lecture, 1 hr demonstration, 2 hrs PE.

FIRST HOUR

I. INTRODUCTION: (5 min)

A. Opening Statement: During this period of instruction, you will be given important information relative to immunizations. As 91C's, working in a hospital or troop clinic, you will be required to know this information as you may be called upon to give immunizations.

B. Objectives

1. Given a list, select two sources or references where detailed requirements on immunizations are found.

2. Given a list of vaccines, select the proper storage temperature required for a given vaccine.

3. Given a list of (5 Rights) and safety precautions, identify those to be followed when administering immunizations.

4. Identify three types of reactions that can occur after an immunization is administered.

5. Select proper measures that should be performed if an anaphylactic reaction results from an immunization.

*6. Given the proper equipment, and after demonstration administer to an individual an intradermal (ID), subcutaneous (SQ), and intramuscular (IM) injection, utilizing aseptic technique, the five "Rights", and proper safety precautions.

*Terminal Objective

C. Class Procedure and Lesson Tie-In:

This is the first of a four-hour block of instruction. One hour lecture, one hour demonstration, and a two hour PE in which each of you will administer immunizations.

II. EXPLANATION (30 min)

NOTE: Definition

QUESTION: What is an immunization?

ANSWER: Becoming immune or the process of rendering a patient immune from a disease.

A. Sources of information

1. AR 40-562

a. Area, listing of immunizations required.

b. Dosage and intervals.

c. Route of immunizations.

2. TB Med 114

a. Immunization methods

b. Immunization agents

c. Storage time, temperature

NOTE: Most troop clinics and ambulatory clinics have posted a geographical map which identifies required immunizations for a specific area or region worldwide.

B. Vaccine Storage Temperature

1. Yellow Fever

a. Stored at below 0°C or below 32°F

b. Must be used one hour after thawing

2. Polio Virus vaccine, live, oral

a. Store at below -5°C or below 23°F

b. Once used must be kept in refrigerator at 2°C-8°C or 35°F-45°F maximum storage 7 days

3. All other vaccines are kept refrigerated.

a. Stored at 2°-8°C or 35°-45°F

b. Never freeze

QUESTION: What is the proper storage temperature of Yellow Fever vaccine?

ANSWER: Below 0°C or below 32°F.

C. Five Rights of administering immunizations.

1. Right Patient
2. Right Immunization/Medication
3. Right Dosage
4. Right Route
5. Right Time

D. Safety Precautions

1. Check medication three times
2. Check for allergic reaction from other medications
3. Detain patient for 30 minutes after injection
4. Use aseptic technique
5. Never give two live virus in the same day
6. Never combine agents
7. Know side effects of medications
8. Observe patient's mental and physical condition

9. Read label to insure medication not outdated

10. Ask female patients if they are pregnant, if so check with doctor before giving medication

NOTE: Could possibly cause congenital anomalies

11. Avoid distractions or interruptions

QUESTION: What are the five Rights of administering immunizations/medications?

ANSWER:
1. Right Patient
2. Right Immunization
3. Right Dosage
4. Right Route
5. Right Time

E. Three types of reactions that can occur

1. Allergic
    a. Anaphylactic Reaction
        (1) Occurs immediately (usually)
        (2) Respiratory difficulty
        (3) Circulatory collapse
        (4) Death can occur
    b. Itching
        (1) Occurs usually within 20 minutes
        (2) Less severe but serious
    c. Urticaria (hives)
    d. Sneezing
2. General
    a. Systemic
        (1) Usually occurs several hours or up to one day after injection
        (2) Fever

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            (3) Malaise

            (4) General aches and pains

            (5) Chills

            (6) G.I. upset

        b. Local (at site of injection)

            (1) Redness

            (2) Swelling

            (3) Tenderness

    3. Infection

        a. Cause

            (1) Improper technique

            (2) Contaminated agent

        b. Results

            (1) Abscess at site of injection

            (2) Infectious Hepatitis

F. Proper nursing measures performed if anaphylactic reaction occurs

    1. Check patient before injection of Epinephrine to insure that it is an anaphylactic reaction and the patient did not just faint.

    2. Place constricting band above site of injection.

    3. Immediately give 0.5ml of Epinephrine 1:1000 SubQ without preparing the injection site.

    4. Get MD or help as soon as possible.

    5. Maintain life support

        a. Airway

        b. Positioning patient

        c. CPR

G. Questions From Students

III. SUMMARY (10 min)

A. 1. Specific sources of immunization information

2. Storage temperature of vaccine

3. Five rights and safety precautions in administering immunizations

4. Three types of reactions resulting from immunizations

5. Proper nursing measures performed in anaphylactic reactions

B. Closing Statement: During this period we have discussed immunizations and problems that can occur. I cannot stress the importance of this class. If an immunization is given improperly, infection can result with possible death occurring. Know this material.

SECOND through FIFTH HOURS

I. INTRODUCTION (5 min)

A. Opening Statement: As 91C's it may be part of your job to administer medications or immunizations by injection. During this hour you will be shown the proper method of administering three types of injections; they are Intramuscular, Subcutaneous, and Intradermal. You will also be given the proper site and angle for each type of injection.

B. Objective:

Given the proper equipment, and after demonstration administer to an individual an intradermal ID), subcutaeous (SQ), and intramuscular (IM) injection, utilizing aseptic technique, the Five "Rights", and proper safety precautions.

C. Class Procedure and Lesson Tie-in:

This is the second hour of a four-hour block of instruction. During the last hour you were given the five rights and safety precautions. During the next two hours you will apply the 5 rights, the safety precautions, and administer to each other an IM, SQ, and ID injection, using the method shown in class.

II. EXPLANATION/DEMONSTRATION (40 min)

A. Angles and Sites of Injections

1. Intramuscular

a. Angle 90°

b. Sites of injection

(1) Front of thigh
(2) Deltoid muscle
(3) Gluteus maximum muscle

2. Subcutaneous

a. Angle 45°

b. Site of injection

(1) Lower part of deltoid area on arm
(2) Thigh area
(3) Abdominal area
(4) Fatty tissue on back of arm
(5) Back area

3. Intradermal (ID)

a. Angle 15°

b. Site of injection

(1) Forearm

NOTE: Equipment -
1 - TB syringe
2 - 3cc syringe
22-25cc, 3/4" needles
Alcohol pad/Betadine pad
Ampule/vial of normal saline
Medication card (DA 8-244)/or Doctor's Orders DD-728/PHS-73
Immunization Record

B. Demonstration of Injection (IM) buttocks

1. Wash hands

2. Identify patient

3. If on ward check Doctor's Orders

4. Explain procedure to patient

5. Using medication card (DA 8-244) or Immunization Record (PHS-73), determine medication needed. Obtain medication required making proper checks.

6. Obtain proper syringe with proper needle (usually a 3cc syringe with a 22 or 23 gauge needle)

7. Remove syringe from package using asceptic technique

8. Holding syringe in one hand, pick up needle

9. Remove cap and place needle on syringe using sterile procedure

10. Set syringe down

11. Check medication

12. Preparation for drawing up medication

    a. Ampule

        (1) Pick up ampule

        (2) Take alcohol pad and wrap around neck of ampule, causing it to break

    b. Vial

        (1) Take alcohol pad and clean surface of rubber stopper using asceptic procedure

13. Pick up syringe, remove cover on needle and hold in fingers. Pick up medication and draw up .1cc

    a. Ampule

        (1) Insert needle into ampule without touching outside or sides of ampule and draw up medication

    b. Vial

        (1) Push needle in center of rubber stopper and withdraw needle when desired amount is drawn up

14. Set vial/ampule down. Tap syringe gently to remove all air bubbles. Replace cap over needle

15. Have patient lie on bed, cover with sheet, with injection site exposed, insuring patient is in face-down and toe-in position

16. Divide buttock into quadrants and locate the UOQ for the site of injection

17. Cleanse the area using alcohol wipe

18. With thumb and first finger spread area UOQ avoiding contaminating area

19. Swiftly thrust needle straight into tissue at 90° angle

20. Aspirate syringe to see if blood appears, withdraw the needle slightly and test again

21. If no blood is evident, inject the solution slowly

22. Withdraw needle quickly covering site with alcohol prep pad

23. Massage area of injection

24. Replace sheet and have patient replace clothing

25. Clean up work area

26. Destroy needle and syringe properly

27. If medication is in multi-dose vial, mark date, time, and amount used on label and place in refrigerator

28. Properly acknowledge and record immunization on proper forms

C. Demonstration of Injection SQ

1. Steps 1 - 14 same as IM injection
   Exception: Obtain correct syringe with needle (usually 3cc syringe with a 24 gauge needle)

15. Have patient remove shirt

16. Prep injection site with alcohol pad

17. Remove cover from needle

18. Swiftly thrust needle at a 45° angle into prepared area

19. Follow steps 20-28 of IM injection for remainder of procedure

D. Demonstration of Injection ID

1. Steps 1 - 14 same as IM injection
Exception: obtain correct syringe with needle (always a TB syringe with 25 gauge needle)

15. Have patient roll shirt sleeve up

16. Prep injection site with alcohol pad (inner aspect of forearms)

17. Remove cover from needle

18. Inject needle just under outer layer of skin at a 15° angle with bevel up and inject medication slowly, a wheal should be present

19. Remove needle quickly covering site with alcohol pad. DO NOT MASSAGE AREA

20. Have patient roll sleeve back down

21. Follow steps 25 - 28 of IM injection for remainder of procedures

III. APPLICATION (120 min)

A. Directions to Students

1. At PE stations you will be asked to demonstrate three injections, Sub Q, IM, and ID, maintaining all safety and aseptic rules.

2. Each instructor is a primary instructor at each station. They will assist you in gaining skills in administering immunizations.

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3. All equipment and supplies/materials used will remain at PE stations. DO NOT remove anything from area. Syringes and needles will be counted before leaving area.

4. All students are expected to help in keeping all areas neat and clean.

B. Directions to Instructors

1. Primary Instructor

   a. Directs and assists in setting up practical exercise stations (Annex B).

   b. Consults with Operations NCO in obtaining equipment necessary for the conduct of practical exercises.

   c. Coordinates student movement to each PE station and general plan for conducting PE exercise (Annex B).

   d. Assists in supervision and evaluation of student performance of procedures.

   e. Assists in identifying discipline problems for further action.

   f. Makes "on the spot" revisions and modification of PE station, should the occasion arise.

   g. Assists in the cleaning up and collection of used equipment at the end of a practical exercise period.

   h. Maintain notes and/or records of individual student's performance of procedures and skills.

2. Secondary instructors

   a. Assists primary instructor as necessary.

   b. Sets up practical exercise stations (Annex B).

   c. Each instructor will give their group of students a demonstration using steps of instructions in M 65-340-028-2.

d. Supervise and evaluate student performance of procedure/skills (Annex B).

e. Identify those students requiring remedial teaching or further practice.

f. Identify discipline problems for further action.

g. Stress principles of maintaining sterility when giving injections.

IV. CRITIQUE (5 min)

A. Questions from Students

B. Review of Main Points

1. Angles of injection

a. IM - 90°

b. SQ - 45°

c. ID - 15°

2. The importance of sterile technique

3. Safety precautions and the Five Rights

C. Closing Statement: you have just completed the practical exercises in immunization, hopefully, you have learned how to draw up medication using aseptic technique and injecting at the proper site and angle. Remember, at all times maintain sterile procedures using safety precaution to prevent breaking asepsis.

ANNEX A
INSTRUCTIONAL AIDS

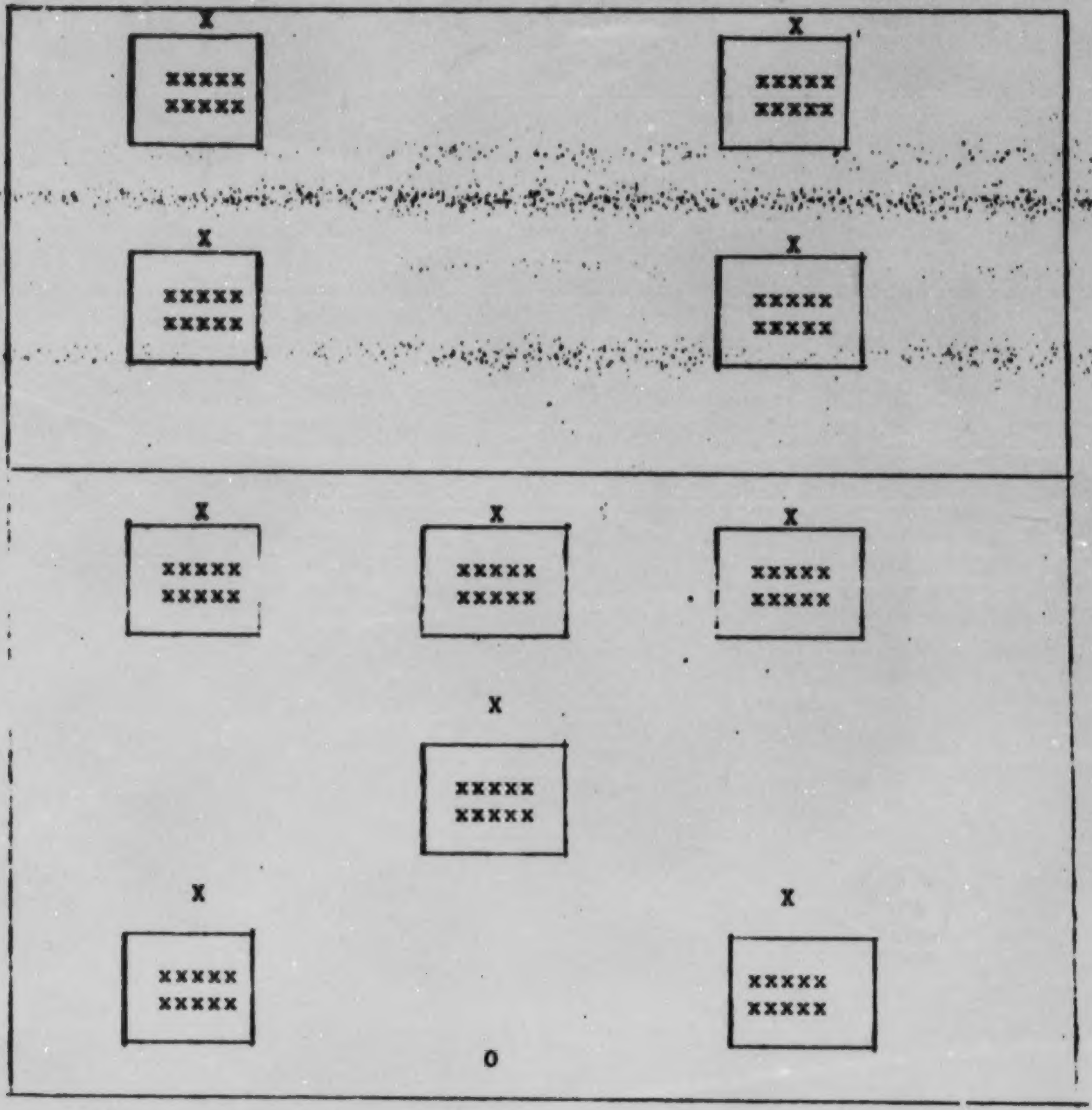
Transparencies

T 65-340-028-1	Two Sources of Information on Required Immunizations
T 65-340-028-2	Vaccine Storage Temperatures
T 65-340-028-3	Five Rights of Administering Immunizations
T 65-340-028-4	Three Types of Reactions That Can Occur
T 65-340-028-5	Proper Measures Performed if Anaphylactic Reaction Occurs

ANNEX B

LP 65-340-028
097

Arrangement of Students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O

x= Students

X= Secondary Instructors

O= Primary Instructor

ANNEX C

LP 65-340-028
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Procedure Checklist

1. Intramuscular Injection (IM)

    a. Washes hands

    b. Identify patient

    c. Checks Doctor's Orders

    d. Explains procedure to patient

    e. Using medication card (DA 8-244) or Immunization Record (PHS-73), determine medication needed. Obtain medication required making proper checks.

    f. Obtain proper syringe with proper needle (usually a 3cc syringe with a 22 or 23 gauge needle)

    g. Removes syringe from package using aseptic technique

    h. Holding syringe in one hand, pick up needle

    i. Removes cap and place needle on syringe using sterile procedure

    j. Sets syringe down

    k. Checks medication

    l. Prepares for drawing up medication

        (1) Ampule

            (a) Picks up ampule

            (b) Takes alcohol pad and wrap around neck of ampule, causing it to break

        (2) Vial

            (a) Takes alcohol pad and clean surface of rubber stopper using aseptic procedure

    m. Picks up syringe, removes cover on needle and hold in fingers. Picks up medication and draws up .2cc's

        (1) Ampule

            (a) Inserts needle into ampule without touching outside or sides of ampule and draws up medication

(2) Vial

(a) Pushes needle in center of rubber stopper and withdraws needle when desired amount is drawn up

n. Sets vial/ampule down. Taps syringe gently to remove all air bubbles. Replaces cap over needle

o. Have patient lie on bed, cover with sheet with injection site exposed, insuring patient is in face-down and toe-in position

p. Divides buttock into quadrants and locate the UOQ for the site of injection

q. Cleans the area using alcohol wipe

r. With thumb and first finger spread area UOQ avoiding contaminating area

s. Swiftly thrust needle straight into tissue at 90° angle

t. Aspirates syringe to see if blood appears, withdraws the needle slightly and test again

u. If no blood is evident, injects the solution slowly

v. Withdraws needle quickly covering site with alcohol prep pad

w. Massages area of injection

x. Replaces sheet and have patient replace clothing

y. Cleans up work area

z. Destroys needle and syringe properly

aa. If medication is in multi-dose vial, mark date, time and amount used on label and place in refrigerator

bb. Properly acknowledges and records immunization on proper forms

2. Subcutaneous Injection (SQ)

a. Washes hands

b. Identify patient

c. Checks Doctor's Orders

d. Explains procedure to patient

e. Using medication card (DA 8-244) or Immunization Record (PHS-73), determine medication needed. Obtain medication required making proper checks.

f. Obtain proper syringe with proper needle (usually a 3cc syringe with a 25 gauge needle)

g. Removes syringe from package using aseptic technique

h. Holding syringe in one hand, pick up needle

i. Removes cap and place needle on syringe using sterile procedure

j. Sets syringe down

k. Checks medication

l. Prepares for drawing up medication

(1) Ampule

(a) Picks up ampule

(b) Takes alcohol pad and wraps around neck of ampule, causing it to break

(2) Vial

(a) Takes alcohol pad and cleans surface of rubber stopper using aseptic procedure

m. Picks up syringe, removes cover on needle and holds in fingers. Picks up medication and draws up .1cc

(1) Ampule

(a) Inserts needle into ampule without touching outside or sides of ampule and draws up medication

(2) Vial

(a) Pushes needle in center of rubber stopper and withdraws needle when desired amount is drawn up

n. Sets vial/ampule down. Taps syringe gently to remove all air bubbles. Replaces cap over needle

o. Have patient remove shirt

p. Preps injection site with alcohol pad

q. Removes cover from needle

r. Swiftly thrust needle at a 45° angle into prepared area

s. Aspirates syringe to see if blood appears, withdraws the needle slightly and test again

t. If no blood is evident, injects the solution slowly

u. Withdraws needle quickly covering site with alcohol prep pad

v. Massages area of injection

w. Have patient replace clothing

x. Cleans up work area

y. Destroys needle and syringe properly

z. If medication is in multi-dose vial, mark date, time, and amount used on label and place in refrigerator

aa. Properly acknowledges and records immunization on proper forms

3. Intradermal Injection (ID)

a. Washes hand

b. Identify patient

c. Checks Doctor's Orders

d. Explains procedure to patient

e. Using medication card (DA 8-244) or Immunization Record (PHS-73), determine medication needed. Obtain medication required making proper checks.

f. Obtain proper syringe with proper needle (always a TB syringe with 25 gauge needle)

g. Removes syringe from package using aseptic technique

h. Holding syringe in one hand, pick up needle

i. Removes cap and place needle on syringe using sterile procedure

j. Sets syringe down

k. Checks medication

l. Prepares for drawing up medication

    (1) Ampule

        (a) Picks up ampule

        (b) Takes alcohol pad and wrap around neck of ampule, causing it to break

    (2) Vial

        (a) Takes a alcohol pad and clean surface of rubber stopper using aseptic procedure

m. Picks up syringe, removes cover on needle and hold in fingers. Picks up medication and draws up .1cc

    (1) Ampule

        (a) Inserts needle into ampule without touching outside or sides of ampule and draws up medication

    (2) Vial

        (a) Pushes needle in center of rubber stopper and withdraws needle when desired amount is drawn up

n. Sets vial/ampule down. Taps syringe gently to remove all air bubbles. Replaces cap over needle

o. Have patient roll shirt sleeve up

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p. Preps injection site with alcohol pad (inner aspect of forearms)

q. Removes cover from needle

r. Injects needle just under outer layer of skin at a 15° angle with bevel up and inject medication slowly, a wheel should be present.

t. Removes needle quickly covering site with alcohol pad. DO NOT MASSAGE AREA

u. Have patient roll sleeve back down

v. Cleans up work area

w. Destroys needle and syringe properly

x. If medication is in multi-dose vial, mark date, time and amount used on label and place in refrigerator

y. Properly acknowledge and record immunization on proper forms

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ANNEX D
INSTRUCTIONAL AIDS

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Materials/Equipment Needed

NOTE: Quantity based on 100 Students

Demonstration

Syringe, 1cc	6
Syringe, 3cc	12
Needle, 23 or 25 gauge	18
NaCl Ampoules, 5cc	6
Prep pads	12

PE/per student

Syringe, 1cc	1
Syringe, 3cc	2
Needle, 25 gauge	3
NaCl Ampoules, 5cc	1 bx/student
Band-Aid	1/per student

PER Session/Overflow

Destructo clip	6 (on ward)
Disposo box	6 (on ward) restock
Plastic bag, large	2
Ammonia caps, pkgs	1 (kept on ward)
Syringe, 1cc	25
Syringe, 3cc	50
Needle, 25 gauge	75
Prep pads	75
Band-Aids	50
NaCl Ampoules, 5cc	50

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ENLISTED INSTRUCTIONAL BRANCH

IM 65-340-028
097

Administering Immunizations

During this period of instruction you will be given important information on immunizations. As 91C's working in the hospital or troop clinic, you will be required to know this information, especially if you are responsible for administering immunizations.

We will first talk about those sources of information on immunizations most readily used in the Army. There are two references with which you should become familiar as sources of information concerning immunizations.

The first reference we will discuss is AR-40-562. It states which immunizations are required for any given area, dosage and interval requirements, and routes of immunization. The second reference is TB MED 114. It lists immunization methods, immunization agents, storage times, and temperatures at which vaccines should be stored. As you can see, these are very important. If you ever work in an immunization clinic these two sources will become essential references for your use.

Before we discuss immunizations, let's first define immunization. It is the process of rendering a patient immune from a disease.

One immunizing agent is yellow fever vaccine. It is stored at a temperature below 0°C or below 32°F. It is the only vaccine that must be used within one hour after thawing; otherwise it must be discarded.

The next vaccine that we will talk about is polio virus vaccine: live and oral. This vaccine is stored below -5°C or 23°F. Unlike yellow fever, once thawed it must be kept refrigerated at 2° to 8°C or 35° to 45°F. This can be stored for a period of 30 days, if no vaccine has been used from the container. Once used, it can only be kept a maximum of seven days.

All other vaccines are kept refrigerated. You must never freeze these vaccines, or you may damage the container and destroy the vaccine.

You do need equipment to insure these vaccines are kept at the proper temperature. The equipment consists of a refrigerator with a freezer compartment and two thermometers: one kept in the refrigerator and one kept in the freezer compartment. This refrigerator should never be used for food or laboratory specimens.

We will now discuss the Five Rights of administering immunizations. First of the Five Rights is the Right Patient. This can be accomplished by asking the patient his/her name. Next, check his/her I.D. card. The second right is the Right Immunization. You would not want to give the patient an unnecessary shot or improper immunization. The third right is the Right Dosage. If given the wrong dosage, the immunization could be inadequate. The fourth right is the Right Route. There is a definite difference between an oral injection and suppositories. The fifth, and last, of the Five Rights is the Right Time. This is important especially in a series. If not given in time, the entire series will need to be repeated.

Now we will discuss the safety precautions. First, you must check the medication three times as follows: once, when you get it from the storage area, second when drawing it up, and the third time when you return it or set it down. This insures you do not make a mistake. Ask the patient if he/she is allergic to any medication; this will prevent complications. Detain the patient thirty minutes after injection to insure that the patient is not going to have an anaphylactic reaction. Never give two live viruses in the same day for it can result in making the patient very ill. In this case, the body is also trying to fight off two viruses instead of one which is an unnecessary increase in the workload for the body. Never combine agents. If not done properly, you could cause severe side effects. Know the side effects of medication; it is your responsibility to observe a patient's mental and physical condition. You would not want to give a flu shot to a patient with a very bad cold. Doing this could worsen the patient's condition. Read the label to insure that the medication is not outdated. Medications have expiration dates for safety reasons. Always ask female patients if they are pregnant. If so, check with the doctor before giving an injection. Some medications could do a lot of damage to the mother or fetus. Avoid distractions and interruptions as they could cause you to make a mistake, thereby breaking one of the Five Rights.

Now we will discuss three types of reactions that can occur after immunizations. The first major type of reaction is termed allergic. The first of these is an anaphylactic reaction. It usually occurs immediately and can occur in such severity as to cause respiratory difficulty and complete circulatory collapse. Death can occur. Next is itching. This usually occurs within twenty minutes and is less severe but still serious. The patient may also have hives or sneezing. Make sure you report all reactions to an R.N. or doctor.

The second type of reaction is systemic. This type usually occurs several hours or up to one day after injection. The individual may experience slight fever, general malaise, general aches and pains, chills, and GI upset. He may also have a local reaction shown by redness, swelling, tenderness to touch.

The third and last type is infection. It can be prevented if aseptic technique is followed. The cause of infection stems from improper aseptic technique or injecting contaminated agents. The results are an abscess at the site of injection or infectious hepatitis. Remember: this can be prevented if all safety rules are followed.

The next thing we will discuss will be the proper measures that should be taken if anaphylactic reaction results from an immunization. First, remember that most of these things will be done almost simultaneously. The first and most important thing to remember is to insure that the patient is in anaphylactic shock and has not fainted. After this has been established, place a constricting band above the site of injection. Then immediately give 0.5ml of epinephrine 1:1000 SQ without preparing the injection site. Get an M.D. as soon as possible. Finally, maintain life support: open the airway, position the patient, and institute CPR, if needed.

During this period of instruction we have discussed the proper storage temperature of vaccines, the Five Rights, and safety precautions to be observed by the 91C when handling and injecting immunizations/medications. The three types of reactions which could occur as a result of immunizations and the subsequent measures to be performed in an anaphylactic reaction were also discussed.

I cannot emphasize enought the importance of this class. If an immunization is given improperly, you can cause an infection or, worse still, death. Know this material!

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N 65-340-028-1
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Enlisted Instructional Branch

Administering Immunizations

Objectives:

1. Given a list, select two sources or references where detailed requirements on immunizations are found.

2. Given a list of vaccines, select the proper storage temperature required for a given vaccine.

3. Given a list of (5 rights) and safety precautions, identify those to be followed when administering immunizations.

4. Identify three types of reactions that can occur after an immunization is administered.

5. Select proper measures that should be performed if an anaphylactic reaction results from an immunization.

*6. Given the proper equipment, and after demonstration, administer to an individual an intradermal (ID), subcutaneous (SQ), and intramuscular (IM) injection, utilizing aseptic technique, the "five" rights, and proper safety precautions.

NOTES

A. Sources of Information

1.

a.

b.

c.

2.

a.

712

*Terminal

711

b.

c.

B. Vaccine Storage Temperature

1. Yellow Fever

a.

b.

2. Polio virus vaccine; live, oral

a.

b.

3. All other vaccines are kept refrigerated

a.

b.

C. Five Rights of Administering Immunizations

1.

2.

3.

4.

5.

D. Safety Precautions

1.

2.

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712

3.

4.

5.

6.

7.

8.

9.

10.

11.

E. Three types of reactions that can occur

1.

  a.

    (1)

    (2)

    (3)

    (4)

  b.

    (1)

    (2)

  c.

  d.

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2.

a.

(1)

(2)

(3)

(4)

(5)

(6)

b.

(1)

(2)

(3)

3.

a.

(1)

(2)

b.

(1)

(2)

F. Proper nursing measures performed if anaphylactic reaction occurs.

1.

2.

3.

4.

5.

   a.

   b.

   c.

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Administering Immunizations

Objective:

Given the proper equipment, and after demonstration, administer to an individual an intradermal (ID), subcutaneous (SQ), and intramuscular (IM) injection, utilizing aseptic technique, the "Five Rights," and proper safety precautions.

NOTES

A. Angles and sites of injections

1. Intramuscular

    a. Angle 90°

    b. Sites of injection

        (1) Front of thigh

        (2) Deltoid muscle

        (3) Gluteus maximus muscle

2. Subcutaneous

    a. Angle 45°

    b. Site of injection

        (1) Lower part of deltoid area on arm

        (2) Thigh area

        (3) Abdominal area

        (4) Fatty tissue on back of arm

        (5) Back area

3. Intradermal (ID)

    a. Angle 15°

    b. Site of injection

        (1) Forearm

B. Demonstration of injection IM buttocks

1. Wash hands

2. Identify patient

3. If on ward, check Doctor's Orders

4. Explain procedure to patient

5. Using medication card (DA 8-244) or Immunization Record (PHS 73), determine medication needed. Obtain medication required making proper checks.

6. Obtain proper syringe with proper needle (usually a 3cc syringe with a 22 or 23 gauge needle)

7. Remove syringe from package using aseptic technique

8. Holding syringe in one hand, pick up needle

9. Remove cap and place needle on syringe using sterile procedure

10. Set syringe down

11. Check medication

12. Preparation for drawing up medication

    a. Ampule

        (1) Pick up ampule

        (2) Take alcohol pad and wrap around neck of ampule causing it to break.

    b. Vial

        (1) Take alcohol pad and clean surface of rubber stopper using aseptic procedure.

13. Pick up syringe, remove cover on needle and hold in fingers. Pick up medication and draw up .2cc's

    a. Ampule

        (1) Insert needle into ampule without touching outside or sides of ampules and draw up medication

b. Vial

(1) Push needle in center of rubber stopper and withdraw needle when desired amount drawn up

14. Set vial/ampule down. Tap syringe gently to remove all air bubbles. Replace cap over needle.

15. Have patient lie on bed, cover with sheet with injection site exposed, insuring patient is in face-down and toe-in position.

16. Divide buttocks into 4 quadrants and locate the UOQ for the site of injection.

17. Cleanse the area using alcohol wipe.

18. With thumb and first finger spread area UOQ avoiding contaminating area.

19. Swiftly thrust needle straight into tissue at 90° angle.

20. Aspirate syringe to see if blood appears, withdraw the needle slightly and test again.

21. If no blood is evident, inject the solution slowly.

22. Withdraw needle quickly covering site with alcohol prep pad.

23. Massage area of injection.

24. Replace sheet and have patient replace clothing.

25. Clean up work area.

26. Destroy needle and syringe properly.

27. If medication is in multi-dose vial, mark date, time, and amount used on label and place in refrigerator.

28. Properly acknowledge and record immunization on proper forms.

C. Demonstration of injection SQ

1. Steps 1 - 14 same as IM injection
   Exception: Obtain correct syringe with needle (usually a 3cc syringe with a 25 gauge needle)

15. Have patient remove shirt.

16. Prep injection site with alcohol pad.

17. Remove cover from needle.

18. Swiftly thrust needle at 45° angle into prepared area.

19. Follow steps 20-28 of IM injection for remainder of procedure.

D. Demonstration of injection ID

1. Steps 1-14 same as IM injection
Exception: Obtain correct syringe with needle (always a TB syringe with a 25 gauge needle)

15. Have patient roll shirt sleeve up.

16. Prep injection site with alcohol pad (inner aspect of forearms)

17. Remove cover from needle.

18. Inject needle just under outer layer of skin at a 15° angle with bevel up. Inject medication slowly. A wheal should be evident.

19. Remove needle quickly covering site with alcohol pad. DO NOT MASSAGE AREA.

20. Have patient roll sleeve back down.

21. Follow steps 25-28 of IM injection for remainder of procedures.

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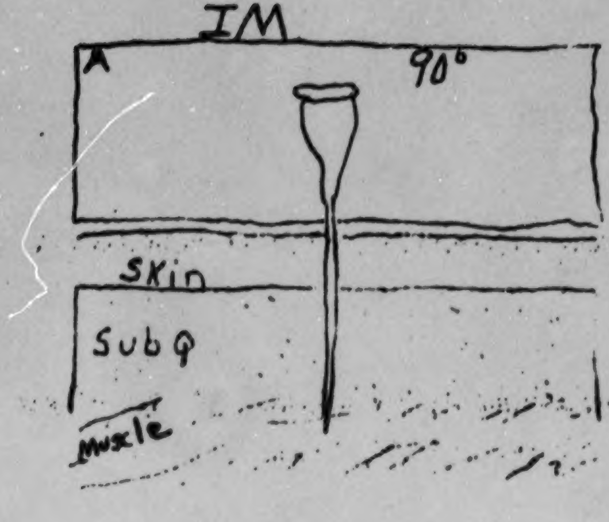
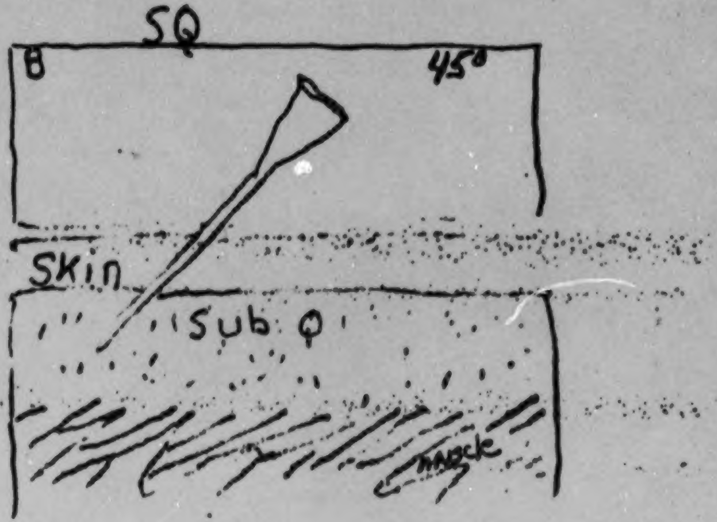
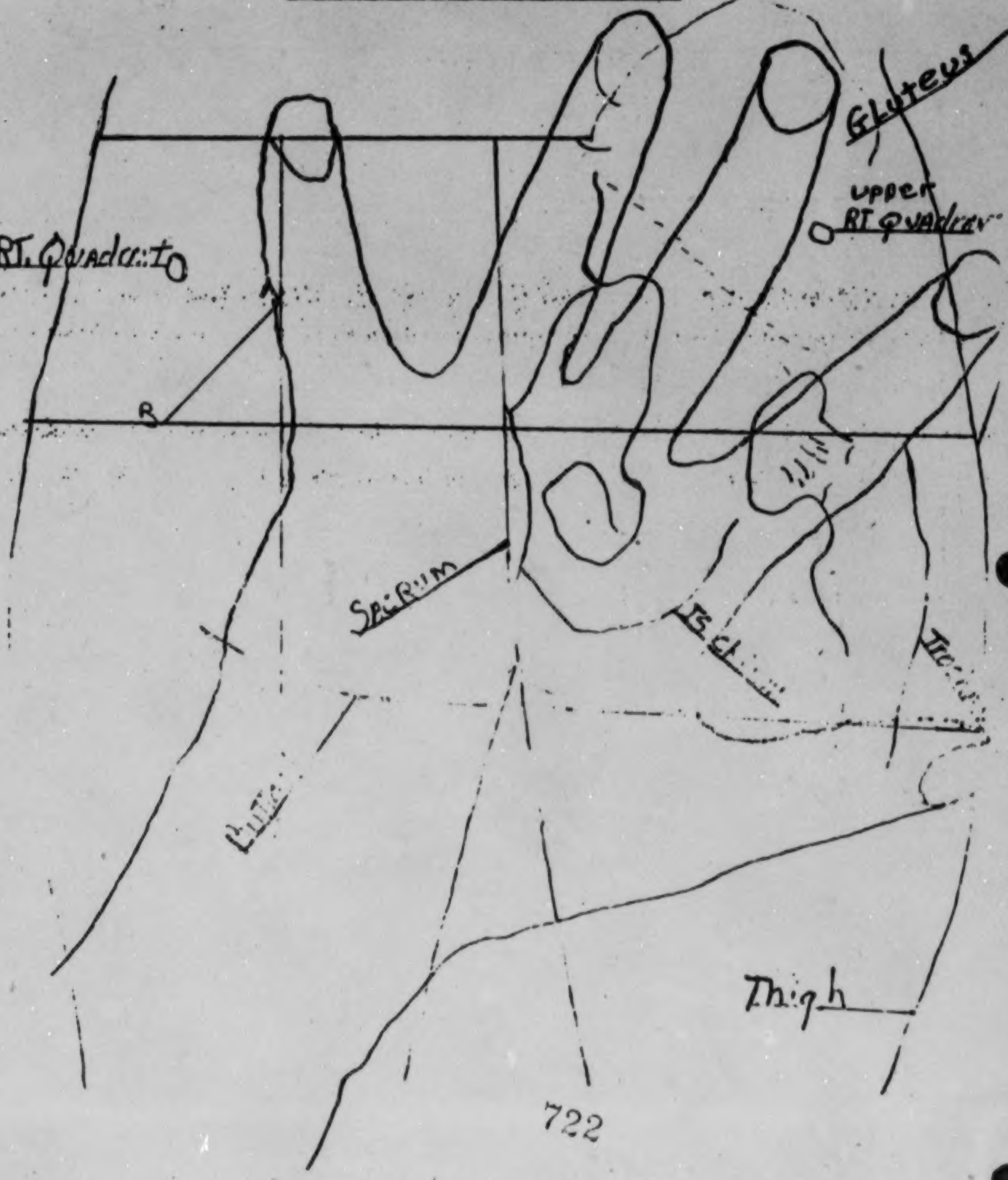

IM
A
90°
Skin
Sub Q
Muscle


SQ
B
45°
Skin
Sub Q
Muscle

ID
Skin
Sub Q
Muscle

Administering Immunizations


Gluteus
upper RT Quadrant
Upper RT. Quadrant
B
Sacrum
Thigh

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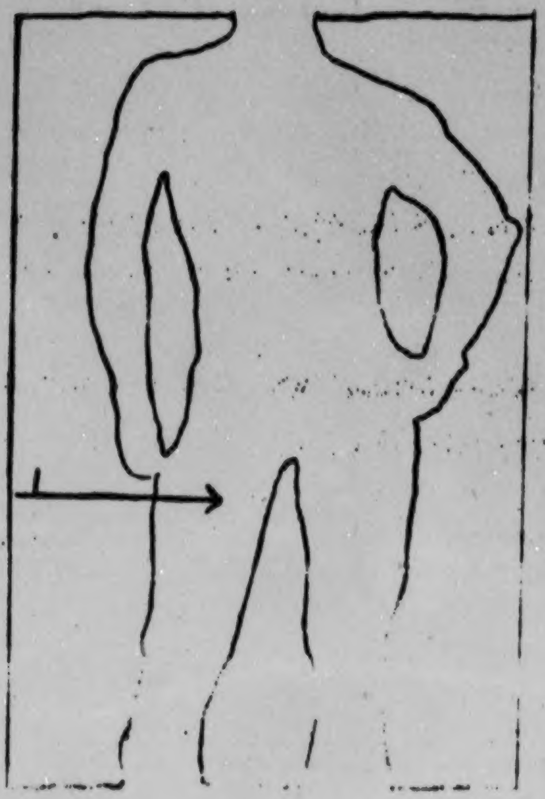
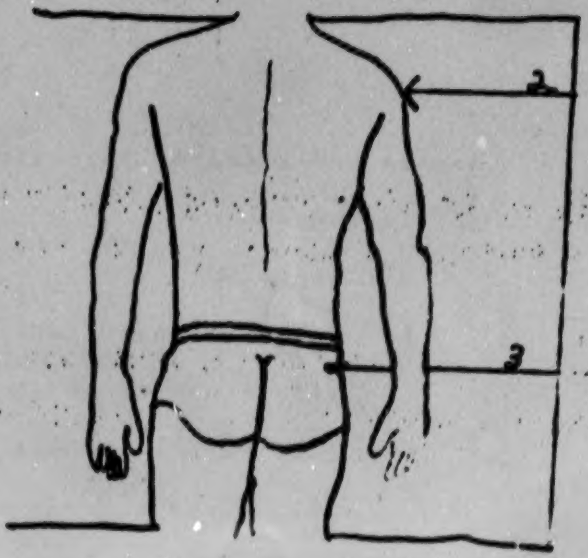
Administering Immunizations



Anterior



Posterior

1 Thigh

2. DeLtoid

3. GLuteaL Maximus

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Administering Immunizations

Objectives:

Given the proper equipment and after the demonstration give an IM, SQ, ID (using the proper site and angle) follow the five rights and safety precautions as stated in class.

NOTES

A. Angles and sites of injections

1. Intramuscular
    a. Angle 90°
    b. Sites of injection
        (1) Front of thigh
        (2) Deltoid muscle
        (3) Gluteus Maximum muscle
2. Subcutaneous
    a. Angle 45°
    b. Site of injection
        (1) Lower part of deltoid area on arm
        (2) Thigh area
        (3) Abdominal area
        (4) Fatty tissue on back of arm
        (5) Back area

B. Demonstration of injection IM buttocks

1. Wash hands
2. Identify patient
3. If on ward check doctor's orders
4. Explain procedure to patient
5. Using medication card (DA 8-244) or Immunization Record (PHS 73), determine medication needed. Obtain medication required making proper checks.
6. Obtain 3cc syringe with 25 gauge needle
7. Remove syringe from package using aseptic technique
8. Holding syringe in one hand, pick up needle
9. Remove cap and place needle on syringe using sterile procedure
10. Set syringe down
11. Check medication
12. Preparation for drawing up medication
    - a. Ampule
        - (1) Pick up ampule
        - (2) Take alcohol pad and wrap around neck of ampule, causing it to break.
    - b. Vial
        - (1) Take alcohol pad and clean surface of rubber stopper using aseptic procedure.
13. Pick up syringe, remove cover on needle and hold in fingers. Pick up medication and draw up 015cc
    - a. Ampule
        - (1) Insert needle into ampule without touching outside or sides of ampules and draw up medication
    - b. Vial
        - (1) Push needle in center of rubber stopper and withdraw needle when desired amount drawn up

14. Set vial/ampule down. Tap syringe gently to remove all air bubbles. Replace cap over needle.

15. Have patient lie on bed, cover with sheet with injection site exposed, insuring patient is in face down and toe-in position

16. Divide buttocks into 4 quadrants and locate the UOQ for the site of injection

17. Cleanse the area using alcohol wipe

18. With thumb and first finger spread area UOQ avoiding contaminating area

19. Swiftly thrust needle straight into tissue at a 90° angle

20. Aspirate syringe to see if blood appears, withdraw the needle slightly and test again

21. If no blood is evident, inject the solution slowly

22 Withdraw needle quickly covering site with alcohol prep pad

23. Massage area of injection

24. Replace sheet and have patient replace clothing

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M 65-530-005-1

CLINICAL SPECIALIST
US

NAME____________________

Class No________

STUDENT HANDBOOK

Clinical Specialist Course
(Primary Technical)

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

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MODIFICATIONS

B1 - B4 of this publication has (have) been deleted in adapting this material for use in Vocational and Technical Education. Deleted material involves extensive use of military forms, procedures, systems, etc. and was not considered appropriate for use in vocational and technical education.

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M-65-360-006-2
018

ANA Code for Nurses

1. The nurse provides services with respect for the dignity of man, unrestricted by considerations of nationality, race, creed, color, or status.
2. The nurse safeguards the individual's right to privacy by judiciously protecting information of a confidential nature, sharing only that information relevant to his care.
3. The nurse maintains individual competence in nursing practice, recognizing and accepting responsibility for individual actions and judgements.
4. The nurse acts to safeguard the patient when his care and safety are affected by incompetent, unethical, or illegal conduct of any person.
5. The nurse uses individual competence as a criterion in accepting delegated responsibilities and assigning nursing activities to others.
6. The nurse participates in research activities when assured that the rights of individual subjects are protected.
7. The nurse participates in the efforts of the profession to define and upgrade standards of nursing practice and education.
8. The nurse, acting through the professional organization, participates in establishing and maintaining conditions of employment conducive to high-quality nursing care.
9. The nurse works with members of health professions and other citizens in promoting efforts to meet health needs of the public.
10. The nurse refuses to give or imply endorsement to advertising, promotion, or sales for commercial products, services, or enterprises.

ACADEMY OF HEALTH SCIENCES, USA M-65-360-006-3
NURSING SCIENCE DIVISION 018

AHA Patient Rights

1. The patient has the right to considerate and respectful care.

2. The patient has the right to obtain from his physician complete current information concerning his diagnosis, treatment, and prognosis, in terms he can understand. When it is not medically advisable to give such information to the patient, the information should be made available to an appropriate person on his behalf. He has the right to know, by name, the physician responsible for coordinating his care.

3. The patient has the right to receive from his physician information necessary to give informed consent prior to the start of any procedure. Except in emergencies, such information should include the specific procedure and/or treatment, the risks involved, and the probable duration of incapacitation. Where alternatives exist, the patient has the right to such information. The patient also has the right to know the name of the person responsible for the procedures.

4. The patient has the right to refuse treatment to the extent permitted by law, and to be informed of the medical consequences of his action.

5. The patient has the right to privacy concerning his own medical-care program. Those not directly involved in his care must have the permission of the patient to be present.

6. The patient has the right to expect that all communications and records pertaining to his care should be treated as confidential.

7. The patient has the right to expect that within its capacity a hospital must make reasonable response to the request of a patient for services. A patient may be transferred to another facility only after he has received complete information concerning the needs for such a transfer, and the alternatives. The institution to which the patient is to be transferred must first have accepted the patient for transfer.

8. The patient has the right to obtain information as to any relationship of his hospital to other health-care and educational institutions insofar as his care is concerned.

9. The patient has the right to be advised if the hospital proposes to perform human experimentation affecting his care (and) to refuse to participate.

10. The patient has the right to expect reasonable continuity of care.

11. The patient has the right to examine and receive an explanation of his bill regardless of the source of payment.

12. The patient has the right to know what hospital rules apply to his conduct as a patient.

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Enlisted Instructional Branch

Medical Terminology

OBJECTIVES:

1. Given a list, match the appropriate suffix and prefix to its definition, as stated in class.
2. Given a list, match the appropriate word roots to their definitions as stated in class.
3. Given a list, select the meaning of a common medical term according to the procedures discussed in class.
4. Select from a given list the prefixes and/or suffixes and combine with a root to create a standard medical term, as stated in class.
5. Given a list, match the abbreviation to its meaning, as stated in class.

NOTES

A. Definitions

1. Prefix-one or more letters or syllables at the beginning of a word that explain or add meaning to the rest of the term.
2. Suffix-one or more letters or syllables at the end of a word that adds to or changes the meaning.
3. Root (or Stem)-the main body or component of a word.

B. Analyzing Medical Words

1.

2.

3.

4.

C. Prefixes

1.

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---

*This mimeo supersedes M 65-340-008-1, 057

a.

b.

2.

a.

b.

3.

a.

b.

4.

a.

b.

D. **Suffixes**

1.

a.

b.

2.

a.

b.

3.

a.

b.

4.

a.

b.

E. Roots

1.

a.

b.

2.

a.

b.

3.

a.

b.

F. Common Medical Terms

1.

a.

b.

c.

2.

a.

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733

b.

c.

3.

a.

b.

c.

G. Abbreviations

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

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13.

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ACADEMY OF HEALTH SCIENCES, USA
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ENLISTED INSTRUCTIONAL BRANCH

M 65-340-008-2
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Medical Terminology

	Prefix	Definition	Example	Definition
1.	Ad-	To, toward, near	Adduct	Toward the midline
2.	Brady-	Slow	Bradycardia	Abnormally slow heartbeat
3.	Cardi-	Heart	Cardialgia	Pain in heart
4.	Cephal- Cephalo-	Head	Cephalgia	Headache
5.	Cerebro-	Brain	Cerebropathy	Any brain disease
6.	Chole-	Bile	Cholecystectomy	Excision of gallbladder
7.	Cost-	Rib	Intercostal	Between the ribs
8.	Crani-	Skull	Craniotomy	Surgical opening in skull
9.	Cyst-	Sac, bladder	Cystitis	Inflammation of the bladder
10.	Cyto-	Cell	Cytology	Scientific study of cells
11.	Dermato-	Skin	Dermatitis	Inflammation of the skin
12.	Dys-	Pain, difficulty	Dyspnea	Difficult breathing
13.	Entero-	Intestine	Enteritis	Inflammation of the intestine
14.	Epi-	Above, upon	Epidermis	Outermost layer of skin
15.	Erythro-	Red	Erythrocyte	Red blood cell
16.	Febri-	Fever	Febrile	Feverish
17.	Glyco-	Sugar	Glycosuria	Sugar in urine
18.	Hem/Hemat-	Blood	Hematuria	Blood in urine
19.	Hemi-	Half	Hemiplegia	Paralysis of one side of body
20.	Hepato-	Liver	Hepatitis	Inflammation of the liver
21.	Histo-	Tissue	Histology	Science of tissue (Structure/function)

	Prefix	Definition	Example	Definition
22.	Hyper-	Excess of; above	Hypertension	Abnormally high blood pressure
23.	Hypo-	Deficiency of; below	Hypotension	Abnormally low blood pressure
24.	Inter-	Between	Intercostal	Between the ribs
25.	Leuk-	White	Leukocyle	White cell
26.	Myo-	Muscle	Myocardium	Muscular tissue of heart
27.	Nephro-	Kidney	Nephritis	Inflammation of kidney
28.	Opthalmo-	Eye	Opthalmoscope	Instrument used to look into eye
29.	Patho-	Disease	Pathology	Science of diseases
30.	Peri-	Immediately around	Periosteum	Sheath around bone
31.	Phlebo-	Vein	Phlebitis	Inflammation of vein
32.	Phobia-	Fear	Phobia	Fear of fear itself
33.	Pneum- Pneumon-	Lung	Pneumonitis	Inflammation of a lung
34.	Post-	After	Postoperative.	After surgery
35.	Pre-	Before	Preoperative	Before surgery
36.	Semi-	Half	Semi-coma	Mild coma
37.	Septic-	Poison	Septicemia	Poisoned condition of blood
38.	Sub-	Under	Sublingual	Under the tongue
39.	Super-	Above, excessively	Superacute	Excessively acute
40.	Supra-	Above,upon	Suprarenal	Above or upon the kidney
41.	Tox- Toxic-	Poison	Toxemia	Poisoned condition of blood
42.	Uni -	One	Unilateral	Affecting one side

	Suffix	Definition	Example	Definition
1.	-asis/-osis	Affected with	Leukocytosis	Excess number of leukocytes
2.	-cid	Cut/kill	Germicidal	Destructure to germs
3.	-cyte	Cell	Leukocyte	White cell
4.	-ectomy	Excision	Appendectomy	Excision of appendix
5.	-emia	Blood	Glycemia	Sugar in blood
6.	-itis	Inflammation	Tonsillitis	Inflammation of tonsils
7.	-logy	Science of	Pathology	Science of disease
8.	-oma	Tumor	Myleoma	Tumor made of muscle
9.	-(o)stomy	Creation of an opening	Gastrostomy	Creation of an artificial gastric fistula
10.	-(o)tomy	Cutting into	Laparotomy	Surgical incision into abdomen
11.	-pathy	Disease	Myopathy	disease of a muscle
12.	-penia	Lack of	Leukopenia	Lack of white blood cells
13.	-phobia	Fear	Hydrophobia	Hydrophobia
14.	-plasty	Molding	Gastroplasty	Molding or reforming stomach
15.	-pnea	Air,breathing	Dyspnea	Difficult breathing
16.	-rythmia	Rhythm	Arrhthmia	Abnormal rhythm of heart
17.	-rrhaphy	Suture of	Hermorrhaphy	Suture or repair of hernia
18.	-trophia -trophy	Nourishment	Atrophy	Wasting away
19.	-uria	Pert. to urine	Polyuria	Excessive secretion of urine

	Root	Definition	Example	Definition
1.	Abdom	Abdomen	Abdomen	Belly or abdominal area
2.	Arteri	Artery		
3.	Arthur	Joint	Arthritis	
4.	Bronchis	Bronchus of lung	Bronchitis	
5.	Cardio	Heart	Cardialgia	
6.	Cephalo	Head	Cephalagia	
7.	Carpo	Wrist		
8.	Cervica	Neck		
9.	Costo	Rib	Intercostal	
10.	Cysto	Sac/Bladder	Cystitis	
11.	Dermato	Skin	Dermatology	
12.	Entero	Intestine	Enteritis	
13.	Gastro	Stomach	Gastrotomy	
14.	Litho	Stone		
15.	Renal	Pert. to kidney		
16.	Neuro	Nerve	Neuritis	
17.	Hystero	Womb/uterus	Hysterectomy	
18.	Leuco Leuko	White	Leukocyte	
19.	Myo	Muscle	Myocardium	

Abbreviation	Definition
1. a.c.	Before meals
2. PTA	Prior to admission
3. c/o	Complaint of
4. H&P	History and physical
5. p.o.	By mouth
6. NPO	Nothing by mouth
7. RR	Recovery room
8. @	At
9. $\bar{c}$	With
10. $\bar{s}$	Without
11. HOB	Head of bed
12. PRN	As needed
13. ii	Two
14. MOM	Milk of Magnesia
15. RTC	Return to clinic
16. q.s.	Quantity sufficient
17. RLQ	Right lower quadrant
18. O_2	Oxygen
19. VS	Vital signs
20. H_2O	Water
21. PT	Patient
22. Ⓐ	Apical(Pulse)
23. Ⓡ	Rectal(Temp)
24. via	By way of

	Abbreviation	Definition
25.	ROM	Range of Motion
26.	AMB	Ambulate - Ambulatory
27.	DOA	Dead on arrival
28.	DOB	Date of birth
29.	DX	Diagnosis
30.	↑	Increased
31.	↓	Decreased
32.	KUB	Kidneys, Ureters,Bladder(x-ray)
33.	NKA	No known allergy
34.	OR	Operating Room
35.	ICU	Intensive Care Unit
36.	CCU	Cardiac Care Unit
37.	OOB	Out of bed
38.	BR	Bed rest
39.	BRP	Bath room privileges
40.	perl	Pupils equal and reactive to light
41.	SOB	Short of breath
42.	STAT	Immediately
43.	U.A.	Urinalysis
44.	BUN	Blood-Urea-Nitrogen
45.	SSE	Soap suds enema
46.	Ba.E (BE)	Barium enema
47.	UGI	Upper Gastrointestinal(x-ray)
48.	IVP	Intravenous pylogram
49.	HGB	Hemoglobin

	Abbreviation	Definition
50.	CBC	Complete blood count
51.	Hct	Hematocrit
52.	FUO	Fever of unknown origin
53.	A.K.	Above knee
54.	B.K.	Below knee
55.	DC	Discontinue

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*M 65-290-009-1
018

The Hospital Chart and Medical Records

Objectives:

1. Given a list, select the components of the hospital chart, their utilization, and maintenance as stated in class.

2. Given a list, select hospital and medical data forms, their utilization and/or purpose as stated in class.

3. Given clinical or administrative information make entries on the TPR Graphic, Nursing Notes, Doctor's Orders, and Nursing Care Plan as discussed in class.

NOTES

A. Components of the Hospital Chart

1. TPR Graphic

a. Utilization

(1)

(2)

b. Maintenance

(1)

(2)

2. Nursing Notes

a. Utilization

---

*This Mimeo supersedes M 65-290-009-1, 057.

(1)

(2)

(3)

b. Maintenance

(1)

(2)

3. Doctor's Orders

a. Utilization

(1)

(2)

b. Maintenance

(1)

(2)

4. Nursing Care Plan

a. Utilization

(1)

(2)

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b. Maintenance:

B. Clinical Record Cover Sheet

1. Use:

2. Purpose:

C. Individual Sick Slip

1. Use:

a.

b.

c.

2. Purpose:

D. Nursing Care Assignment Sheet

1. Use:

a.

b.

c.

2. Purpose:

E. Health Record

1. Use:

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2. Purpose:

3. Contents:

   a. SF-601 Immunization Record
   b. SF-600 Chronological Record of Medical Care
   c. SF-88 Report of Medical Examinations
   d. SF-93 Report of Medical History

G. Outpatient Record

1. Use:

2. Purpose:

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*M 65-290-009-2
018

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Nursing Notes

1. Admission note contains vital information identifying the patient and giving information concerning reason for admission and condition when received on ward. Must contain: age, sex, hour received (via ambulation, w/c, litter, etc.), allergies, vital signs, height, weight, complaints, external appliances if any (IV, catheter, etc.)

2. A line is drawn through any blank spaces at the end of the note. This insures that other individuals do not add onto the entry. Never skip lines between entries! Entries must be signed to include name, rank and MOS.

3. Routine nursing notes should be precise, clear and communicate pertinent information to other nursing care team members. Notes should be statements of fact or observations. Subjective statements such as, "the patient looks bad" should be avoided. Stick to facts or observations such as "patient appears to be in pain" or "patient states he is experiencing intermittent stabbing pain over op site." Description of pain should include duration, location and intensity.

4. When a patient is received back on the ward after surgery the nore should contain information of patient's mental and physical status: when received, how, complaints, condition of dressing (if any), if voided and amount, IV or other appliances (foley, chest tube, NG, oxygen), if taking fluids (unless NPO), vital signs, special care given (CTDB, blow bottles, etc.).

5. Notes recording drainage of any kind (urine, blood, sputum, etc.) should include amount (small, moderate, large, or number of cc's) and a description (blood-tinged, foul-smelling, purulent, clear yellow, bright red, etc.).

6. If an error is made it should be marked through with a single line and your initials placed over it.

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*This Mimeo supersedes M 65-290-009-2, 057.

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Y.O. - year old

PTA - Prior to admission

C/O - Complaint of

H&P - History and Physical

P.O. - by mouth

NPO - Nothing by mouth

RR - Recovery Room

@ - at

c̄ - with

HOB - head of bed

D/C'd - discontinued

PRN - as needed

ii - two

MOM - Milk of Magnesia

RTC - return to clinic

q.s. - quantity sufficient

PCN - Penicillin

ASA - Aspirin

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NURSING SCIENCE DIVISION 018

Practical Exercise Situation

Patient Information

Robert Ready
37 y.o. Male SP6 (E6) Height: 5'8"
SSAN: 123-45-6789 Weight: 175 lbs
Co B, 3rd Bn
91C30 Clinical Specialist
Married c̄ two dependents
Wears contact lens
Allergic to PCN and ASA
Admitted from ER via litter c DX R/O peptic ulcer

Patient Complaints

Frequent sharp pain in upper stomach lasting approximately five minutes.
Nausea, vomiting x 2 days
Loose, dark stool x 2 days

Corpsman Observations of Signs and Symptoms

Bright, red blood noticed in emesis
Patient states that the pain is relieved by eating and antacids
Patient further indicates that he smokes two packs of cigarettes and drinks one pint of ETOH (alcohol) every day.
VS T-99 P-104 R-18; BP 100/60

Corpsman Questions

When did patient first vomit blood?
Approximately how much blood, ie, cupfull, TBSP, etc.
How many times did patient vomit?
When did loose stools start?
How many stools did patient have?
Indicate the amount and color of stools.
How long has patient been drinking, last drink taken
Did the patient have DT's or Rum fits in the past?

---

*This Mimeo supersedes M 65-290-009-3, 057.

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Doctor's Orders

BR c BRP
Diet: NPO except for meds
Meds: maalox 30 cc to alternate c amphogel 30 cc q 1 hour
valium 10 mg PO q 4 hours
I.V.: D5W to infuse at 125 cc/hr
I&O
NO SMOKING
Guaiac all stools and emesis and record in nursing notes
Observe for DTs and seiqure activity

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FOLLOWING DAY

At 0800 you enter Specialist Ackerman's room. He tells you that he still has sharp pains in his upper stomach area, lasting approximately 10 minutes and is somewhat relieved by taking Maalox. He tells you his arm with the IV running, hurts. When checking the IV, you notice swelling around the entry site. You stop the flow of the IV and notify the head nurse. The head nu-se restarts the IV in L arm.

Vital signs at 1000 hours are T-98.8°, P-84, R-18; BP 108/80.

Upon entering the patient's room, at noon, to remove his lunch tray you notice that he didn't eat any of his lunch. When you encourage him to eat, he tells you that he is not hungry.

Patient had a large, loose, dark BM at 1300. Guaiac test done with positive results.

Upon entering the patient's room at 1400 to take his vital sings, he suddenly vomits approximately 300 cc of fluid which contained a moderate amount of bright, red blood. His vital signs are T-99°, P-124; R-20; BP 80/60.

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*M 65-290-009-4
018

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The Hospital Chart and Medical Records

1. Nursing Notes

   A. Format

      1. Date in first column

      2. Time

      3. Entry

      4. Signature (First and last name, Rank, and MOS)

      5. Patient's identification on front and back of form

   B. Entry

      1. Use correct terminology

      2. Must be legible

      3. Pertinent observations of patient's condition

         a. Objective observations

         b. Relative observations to Nursing Care

            (1) Mental and physical status

            (2) Symptoms

            (3) Response to therapy

            (4) Changes in condition

      4. Entries must be clear concise and to the point

      5. Don't skip lines between entries

      6. Errors will be corrected by drawing a single line through error and placing your initials over error.

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*This Mimeo supersedes M 65-290-009-4, 057

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7. If consecutive entries are made by one person in a brief time frame (10-12 minutes), you need to sign only the last entry.

8. Date must appear at top of each column of notes.

II. Doctors Orders

A. Patient information at top and bottom of front page. Use identaplate at top of page.

B. Orders signed off in appropriate column under correct date.

C. Disc Date Box

1. Doctor initials and dates if order is no longer in effect

2. Nurse may discontinue automatic stop orders

D. Read orders prior to administering patient care

E. Check periodically during shift

F. Post-op orders

1. Become effective after surgery

2. All previous orders are discontinued

III. TPR Graphic

A. Patient information at bottom of both sides. Use identaplate

B. Record height and weight in appropriate spaces.

C. Fill in top of form

1. Current dates to include month and year

2. Post-op dates if applicable

a. DOS (day of surgery)

b. Day following DOS is numbered 1 (1st post-op day)

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3. Hospital Day
    a. Adm, 1-2-3-etc.
    b. Continuous throughout hospital stay
4. Times
    a. May vary from ward to ward
    b. First half of block is for a.m. second half for p.m.
    c. In this course 2-6-10-2-6-10 will be used

D. Record Temp
  1. Use solid dot opposite appropriate temp
  2. Connect to previous temp with solid line
  3. Place (A) over dot if taken axillary
  4. Place (R) over dot if taken rectally

E. Record respirations in space at bottom of column

F. Record blood pressure
  1. Use X for diastolic and systolic valves
  2. Connect X's with solid line
  3. Record valve at bottom of column - usually in a.m. and p.m.

G. Record all vital signs under correct date and time.

H. Other information may be recorded at bottom of form - such as Intake and Output

IV. Nursing Care Pla

A. Fill in patient information at bottom of form

B. Fill in front of Care Plan using information obtained from doctor's orders, observation, and patient interview

V. Nursing Care Assignment Sheet

   A. Given to personnel prior to report - made out by head nurse

   B. Assigns patient care according to skill level

   C. May use to note observations during shift before recording in Nursing Notes

   D. Sign and return to head nurse at end of shift

ACADEMY OF HEALTH SCIENCES, USA *M 65-340-010-1
NURSING SCIENCE DIVISION 018

Temperature, Pulse, Respirations, and Blood Pressure

Objectives:

1. Given the proper equipment, a patient, and after practice, measure to the exact degree an oral temperature and record results obtained on SF 511 as described in TM 8-230.
2. Given a patient, and after practice, select the proper site and count for one full minute a radial and apical pulse (within ± four beats) and record results on SF 511 as stated in TM 8-230.
3. Given a patient, and after practice, count and note the rate, rhythm, and depth of respirations (within ± two breaths) and record results on SF 511 as described in TM 8-230.
4. Given the proper equipment, and after practice, locate the brachial artery, and measure blood pressure (within ± six millimeters of mercury) and record results obtained on SF 511 as stated on TM 8-230.

A. Equipment

1. Thermometers, Chemical and Ivac
2. Watch, with a second hand
3. Sphygmomanometer (BP Cuff)
4. Stethoscope
5. SF 511 (TPR Sheet)

B. Three Methods of Measuring Body Temperature and the Normal Reading for each.

1. Oral Temperature (Most convenient method)

CAUTION: WAIT 15 minutes before taking the temperature if the patient has just had a hot or cold drink or has been smoking. Request patient to remove any chewing gum from the mouth.

a. Wash hands and explain procedure to the patient.

b. Obtain Equipment

c. Check clean, dry thermometer. Shake mercury in thermometer down to 95 degrees or below.

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*This Mimeo supersedes M 65-340-010-1, 127.

CAUTION: Handle thermometer by stem end only.

d. Place bulb end under patient's tongue, where it will be near large blood vessels. Instruct patient to close lips firmly around stem.

e. Leave thermometer in place for 3 minutes.

f. Remove thermometer. Wipe with a tissue or 4 X 4 from stem to bulb to remove saliva.

g. Read. Record, using decimal; for example, "98.4".

h. Place thermometer in "used" oral thermometer holder.

i. Wash hands

2. Rectal Temperature

**This is the most accurate method. It is used for all infants and young children and for adults who are unconscious or irrational, or who have difficulty breathing with the mouth closed. It is not used on patients who have had rectal surgery or have had a rectal disorder.

a. Wash hands and explain procedure to the patient

b. Obtain Equipment

c. Screen the patient. Then turn him on his side (Sims Position) and expose the buttocks.

d. Lift the upper buttock to expose the anus. Insert the well lubricated bulb of the thermometer slowly and carefully about 1 1/2 inches into the anus.

e. HOLD thermometer in place for 2 minutes.

f. Remove thermometer. Wipe downward with paper tissue or 4 X 4 gauze. Read. Record with (R) on the worksheet; for example, (R)
99.8 (A rectal temperature is usually 1 degree higher than oral temperature.)

g. Place rectal thermometer in "used" rectal holder.

h. Wash hands

3/ Axillary Temperature

***When temperature can be taken neither orally or rectally, it can be taken under the arm where the thermometer bulb can be surrounded by body tissue. To take the temperature by axilla, use an ORAL thermometer.

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a. Wash hands and explain the procedure to patient

b. Obtain Equipment

c. Check clean, dry thermometer. Shake mercury in thermometer down to 95 degrees or below.

d. Pat the armpit dry with a tissue or towel. Place the bulb of the oral thermometer in the center of the armpit.

e. Fold the patient's armacross his chest with his fingers on the opposite shoulder.

f. Leave thermometer in place for 10 minutes. Read and record in this manner: (A)
100.2 (Axillary temperature is usually 1 degree lower than oral temperature.)

g. Place thermometer in "used" oral holder.

h. Wash hands

4. Normal Temperature Readings

a. Oral--98.6 °F

b. Rectal--99.6° F

c. Axillary--97.6° F

C. Pulse

The rhythmical dilation of an artery produced by the increased volume of blood thrown into the vessel by the contraction of the heart.

1. Pulse Sites

a. Radial - Anterior Lateral Aspect of Distal Forearm

b. Apical - Left Anterior Chest area, below the left nipple (fifth intercostal space)

2. Technique for Radial Pulse Measurement

a. The patient should be relaxed and lying in bed or seated.

b. The arm used (preferably the left arm) is extended in supination (palm up) and supported.

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- c. Locate artery to be used. Place tips of first, second, and third fingers on pulse point. (Do not use the thumb as the thumb has its own pulsation which can be confusing.)
- d. Press fingers firmly to feel pulse. Count Pulse. Each dilation counts as one beat. Count for full 60 seconds. Record count.

3. Technique for Apical Pulse Measurement.
   - a. Place stethoscope below and to the right of left nipple
   - b. Count beats of the heart for ONE FULL MINUTE
4. Position of Patient during procedure (pulse measurement)
   - a. Sitting
   - b. Standing
   - c. Lying
5. Observations of patient's pulse
   - a. Rate: number of beats per minute
   - b. Rhythm: regular or irregular
   - c. Force: strong or weak
6. Terms denoting irregularities in rate
   - a. Tachycardia - greater than 100
   - b. Bradycardia - less than 60

NOTE: A medical officer may order a "pulse deficit" on an individual patient who has a questionable radial pulse rate due to a heart or circulatory disorder. In this procedure, there is simultaneous counting by two people of the apical pulse of the heart and the radial pulse. The difference obtained is the pulse deficit.

D. Respirations

The expansion and contraction of lungs during breathing

1. Terms used to describe irregularities in respiration:
   - a. Apnea - cessation of breathing

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b. Dyspnea - labored or difficult breathing

c. Cheyne-Stokes - periods of breathing alternating between dyspnea and apnea

2. Technique for taking respirations

a. After counting the pulse and while the fingers are still on the wrist, take the respiration count.

b. Watch rise and fall of the chest or upper abdomen. Count each rise, and continue to watch and count for one minute.

3. Observations

a. Rate - number per minute

b. Rhythm - regular or irregular

c. Depth - shallow or deep

E. Blood Pressure

The pressure exerted by the blood on the wall of any vessel

1. Terminology associated with blood pressure

a. Systolic Pressure: the highest point reached by the contraction of the heart.

b. Diastolic Pressure: the dilation of the heart cavities, during which they fill with blood.

2. Terms associated with abnormalities of blood pressure

a. Hypertension: high arterial blood pressure

b. Hypotension: reduced or subnormal arterial blood pressure

3. Technique for Measuring

a. Explain procedure to patient

b. Check manometer. The cuff must be completely deflated and the gauge must register zero before starting.

c. With an alcohol sponge, wipe the bell (or diaphragm) and ear pieces of the stethoscope firmly.

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d. Place the patient in a relaxed and comfortable position, in bed or seated next to a table. Support the arm to be used at the level of the patient's heart.

e. Expose the patient's upper arm. Remove garment if sleeve is tight.

f. Place the wide portion of the cuff against the inner surface of the upper arm; wrap cuff firmly and smoothly. Clip gauge of aneroid-type manometer to cuff.

g. Locate pulse of brachial artery by feeling in the bend of the elbow with the fingertips. Place the bell or diaphragm of the stethoscope over the pulse point.

h. Tighten thumbscrew of air bulb with one hand while holding stethoscope in place with the other. Inflate the cuff by pumping bulb.

i. LISTEN. LOOK. Inflate cuff about 20 mm above where pulse sounds were last heard. It is at this point that the air pressure has caused the artery wall to collapse.

j. Loosen thumbscrew of the bulb and allow the air to escape slowly. At the same time watch the gauge. When the first distinct sound is heard, note the number on the gauge; THIS IS THE SYSTOLIC PRESSURE.

k. Continue to release the air slowly. LOOK. LISTEN. Note the number on the gauge at which the LAST distinct sound is heard. THIS IS THE DIASTOLIC PRESSURE.

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Signs and Symptoms

OBJECTIVES

1. Given a list, select the definitions of objective signs and subjective symptoms giving an example of each as stated in class.
2. Given a list, select methods of observations a 91C might utilize in assessing signs and symptoms.
3. Given a list of signs, select terms which could be used to describe the specific signs as stated in class.

NOTES

A. Objective Signs and Subjective Symptoms

1. Objective signs

   a. Definition:

   b. Example

      1)

      2)

      3)

      4)

      5)

2. Subjective symptoms

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*This mimeo supersedes M 65-340-011-1, 097

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a. Defintion:

b. Example

1)

2)

3)

4)

5)

B. Methods of Observation

1. Definition:

2. Signs

a.

b.

c. Example: Respiration

1)

2)

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3)

3. Symptoms

a.

1)

2)

3)

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b.

1)

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C. Signs and Descriptive Terms

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a.

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b.

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a.

b.

c.

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a.

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c.

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a.

b.

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b.

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c.

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a. Types

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a.

b.

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d.

e.

11.

a.

b.

c.

12.

a.

b.

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

*M 65-340-012-1
028

Hygienic, Safety and Activity Needs of the Patient

Cognitive Objectives:

1. Given a list, select the components of a patient admission procedures, as stated in class.

2. Given a list, select the components of a nursing admission note as discussed in class.

3. Given a list, select the predisposing condition, cause, sites of development, signs and symptoms, prevention and appropriate nursing care for skin breakdown as stated in class.

4. Given a list, select the definition of body mechanics and body alignment as stated in class.

5. Given a series of unlabeled diagrams of specific patient positions, match the patient position shown to include: orthopneic, semi-Fowlers, high-Fowlers, Trendelenburg, Sims, lateral, prone and supine as discussed in class.

6. Given a list, select the two general principles of transfer techniques as stated in class.

7. Given a list, select the hazards of immobility and benefits of exercise as stated in class.

8. Given a list, select the definition of and the purpose for basic exercise movements, and the nursing care considerations in performing active/passive range of motion exercises as stated in class.

9. Given a diagram of the urinary tract and a list of terms and/or their function, match the terms and functions to the diagram as stated in class.

10. Given a list of definitions, select the definition of urethral catheterization as stated in class.

11. Given a list, select the difference between a straight and indwelling catheterization procedure as stated in class.

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*This Mimeo supersedes M 65-340-012-1, 057

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12. Given a list, select the complications which can occur from a urethral catheterization as stated in class.

13. Given a list, select the basic components of a catheterization tray utilized during a urethral catheterization as stated in class.

14. Given a patient situation, select from a list those elements of information necessary for completion of a thorough nursing note after a urethral catheterization as stated in class.

15. Given a list select the indication for use, conplications, signs and symptoms, appropriate nursing actions, and safety precautions for the use of intravenous fluid therapy as stated in class.

16. Given a list, select the principles, types and nursing care considerations for the use of patient restraints.

17. Given a patient situation, select the principles, purpose, types and nursing care considerations for the use of thermal applications as stated in class.

18. Given a list, select the responsibilities of the 91C20 during the patient discharge procedure as stated in class.

*19. Given a list, select the hygenic, comfort, activity and safety measures employed in caring for a patient in a clinical setting as discussed in class.

Performance Objectives

1. Given a patient situation and the proper forms, demonstrate writing a Nursing Admission Note and Continuing Nursing Notes legibly using correct grammar, spelling and proper medical terminology as discussed in class.

2. Given a set of vital signs and after practice, chart admission and continuing vital signs on the appropriate forms as demonstrated in class and according to TM 8-230.

3. Given the Nursing Care Plan and a patient situation, make entries appropriate to the responsibilities of a 91C20 to include: assessment, hygiene, comfort, activities and safety as demonstrated in class.

4. Given a patient and after practice, perform active/passive range of motion exercises utilizing proper body mechanics and patient body alignment to include: precautionary measures in exercises to the patient and proper support of the extremity/joint being exercised as demonstrated in class.

5. Given the proper setting and specific situations, check a patient care area for potential safety hazards and report findings to appropriate personnel as discussed in class.

6. Given a patient and after practice, perform turning, moving and positioning of a patient to include: Fowlers (semi and high), Sims, prone, lateral, supine, Trendelenburg and orthopneic positions utilizing proper body mechanics, comfort pillows, handrolls, footboards and trochanter rolls, maintaining good body alignment as demonstrated in class.

7. Given a patient and after practice, perform safe patient transfer techniques utilizing proper body mechanics to include: transfer from bed to wheelchair and back to bed, transfer from bed to litter and back to bed, transportation of a patient on a litter, 3-man lift and carry, dangling and ambulating a patient as demonstrated in class.

8. Given the proper equipment and a specific situation, demonstrate the proper utilization of body mechanics, and principles in movements of reaching, stooping, pivoting/turning, lifting/carrying, and pushing/pulling as demonstrated in class.

9. Given a patient, the proper equipment and after practice admit a patient following the patient admission procedure as demonstrated in class.

10. Given a patient, the proper equipment and after practice, perform discharging a patient to include: informing patient and explaining discharge procedure, assist patient in dressing and securing personal items, advise patient of follow-up clinic appointments, direct patient to the nurse for further instructions, remove patient's name from TPR, BP and diet rosters, direct patient to A&D for discharge and valuables as demonstrated in class.

11. Given a patient, the proper equipment and after practice, perform a complete bed bath to include: oral hygiene, skin care, back rub, perineal care, shaving a patient, active/passive range of motion (ROM) and the cleaning of the unit as demonstrated in class.

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12. Given a patient, the proper equipment and after practice, perform the making of an occupied and unoccupied bed as demonstrated in class.

*13. Given the proper equipment and after practice, perform accurate measuring and recording of patient's intake and output to include food, liquids, intravenous fluids and excretions as demonstrated in class.

*14. Given a patient, the proper equipment and after practice, perform the safe application of patient restraints to include: Posey jacket, Houdini, abdominal belt, body, and leather web four point restraints as demonstrated in class.

15. Given an adult catheterization manikin, a urinary catheterization set and after practice perform a urinary catheterization (male/female) on the manikin using sterile technique without making more than two recognizable errors as demonstrated in class.

*16. Given a patient, the proper equipment and after practice, perform the safe application of a male external catheter as demonstrated in class.

*17. Given a patient, the proper equipment and after practice, perform daily routine catheter care as demonstrated in class.

*18. Given a patient the proper equipment and after practice, assess the elements of intravenous fluid therapy to include: care of equipment, signs of infiltration, phlebitis and infection as discussed in class.

*19. Given a patient, the proper equipment and after practice, perform the safe administration of thermal (hot or cold)/ applications/appliances as demonstrated in class.

*Terminal objectives

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NOTES

A. Patient Admission Procedure

1.

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B. Nursing Admission Note Components

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13.

C. Patient Hygienic Needs

1. Definition of hygiene - Establishment and preservation of health.

2. Types of patient hygienic needs

a.

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3)

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b.

1)

2)

c.

1)

2)

D. Skin Breakdown (Decubitus Ulcers, Pressure Sores)

1. Cause - prolonged pressure on a body part with resultant loss of circulation to the area and subsequent tissue destruction.

2. Predisposing conditions

a.

b.

c.

d.

e.

f.

g.

h.

3. Common sites of development

a. Back of head

b. Scapulae/Shoulders

c. Elbows

d. Greater trochanter/hips

e. Sacrum/coccyx

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- f. Heels
- g. Ankles

4. Signs and symptoms of impending pressure sore
   - a. Early/intermediate signs and symptoms
     - 1) Skin discoloration - pale skin area, blanching
     - 2) Reddened, irritated, tender skin is present
     - 3) Patient may complain of numbness, burning tingling or tenderness of area
     - 4) Skin area feels cold
     - 5) Presence of edema
   - b. Late signs
     - 1) Skin breakdown, ulceration
     - 2) Infected, draining area

5. Nursing care/prevention
   - a. Identify decubitus - prone patients
   - b. Daily examination of decubitus - prone patients for signs and symptoms of skin breakdown
   - c. Keep skin dry and clean
   - d. Change patient's position frequently
   - e. Keep bed lines free of wrinkles
   - f. Encourage good nutrition, plenty fluids, exercises and activity
   - g. Massage any reddened or irritated area immediately
   - h. Institute treatment/prevention measures as per ward SOP
   - i. Teach patients and families importance of frequent turning and movement

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E. Patient Comfort and Activity Needs

1. Comfort aids
   a.
   b.
   c.
   d.
   e.
   f.
   g.
   h.
2. Body mechanics and body alignment
   a. Definitions:
      1) Body mechanics - the coordinated use of body parts to produce motion and balance
      2) Body alignment - Positioning of body parts in straight line
   b. Value in use
      1) Prevents injury (low back pain, severe muscle strain)
      2) Lessens fatigue through efficient use of muscles
3. Positioning patients
   a.
   b.
   c.
   d.
   e.
   f.
   g.
   h.

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4. Transfer and moving patients
    a. Principles of transfer techniques
        1)
        2)
    b. Transfer and movement techniques
        1) Moving patient to one side of bed
        2) Turning patient to one side of bed
        3) Moving patient to head of bed
        4) Transfer from bed to wheelchair/chair and back
        5) Transfer from bed to litter and back
        6) Three-man lift and carry
        7) Assist patient to dangle/standing position
        8) Patient ambulation
5. Patient exercise needs
    a. Hazards of immobility
        1)
        2)
        3)
        4)
        5)
        6)
        7)
    b. Benefits of exercise
        1) Maintenance or restoration of adequate joint motion and muscular strength
        2) Prevention of muscular atrophy and deformities
        3) Building endurance
        4) Stimulating circulation

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c. Active/passive range of motion

1) Purpose: preserves and maintains full range of motion of joint or body part

2) Basic exercise movements

a) Abduction

b) Adduction

c) Flexion

d) Extension

e) Rotation

f) Circumduction

3) Nursing Considerations

a) Do not force joint beyond point of pain or resistance whichever may occur first

b) Support extremity and joint being exercised

c) Plan exercise sessions frequently

d) Check with nurse concerning orders not to do ROM

F. Patient Safety Needs

1. Urethral catheterization

a. Anatomy of urinary tract system

1) Structures

a) Kidneys

b) Ureters

c) Bladder

d) Urethra

2) Functions of urinary tract structures

a) Kidney

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(1) Regulates and maintains body fluid balance

(2) Filters and removes waste products from blood

(3) Forms urine for excretion

b) Ureters - drains urine from kidneys to bladder

c) Bladder - collecting reservoir for urine

d) Urethra - passageway for excreting urine from the bladder out of the body

b. Definition of urethral catherterization - Insertion of a catheter utilizing sterile technique through the urethra into the bladder primarily for the purpose of draining urine.

c. Indications for catheterization

1) To obtain a sterile urine specimen

2) To relieve a distended bladder in a patient who is unable to void

3) To measure the amount of residual urine in the bladder

4) To provide for irrigation or instillation of medications into the bladder

5) To prepare a patient for a surgical procedure

6) To maintain cleanliness and dryness of the genitalia following surgery or for hygienic reasons if unable to maintain voluntary control

7) To maintain accurate patient output records

d. Types of catheterizations

1) Straight

a) Definition- Insertion of a catheter to drain urine or obtain a urine specimen and then is removed

b) Uses

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(1)

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(2)

2) Indwelling

a) Definition - Insertion of a catheter to drain or obtain a urine specimen which is anchored in bladder for a period of time

b) Uses

(1)

(2)

(3)

(4)

e. Complications of catheterization

1)

2)

3)

4)

f. Basic components of a catheterization set

1)

2)

3)

4)

5)

6)

7)

8)

9)

g. Charting procedure in nursing notes

1) Date and time of procedure

2) Type and size of catheter used

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3) Amount of fluid used to inflate balloon

4) Any resistance encountered

5) Amount and characteristics of urine returned

6) Any abnormalities noted (smell, color, blood, pus, etc)

7) Patient tolerance to procedure

8) Sign note

2. Intravenous fluid therapy

a. Reasons for use

1) Administration of extra or necessary fluids by vein

2) Administer blood, plasma or blood components

3) Nutritional requirements

4) Administer medications which patient is unable to take orally

b. Complications

1) Infiltration

a) Definition - leakage of IV fluid from the vein into surrounding tissues

b) Signs and symptoms

(1)

(2)

(3)

c) Nursing actions

(1)

(2)

(3)

(4)

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2) Phlebitis

a) Definition - Inflammation or infection of a vein wall

b) Signs and symptoms

(1)

(2)

c) Nursing actions

(1)

(2)

(3)

(4)

(5)

3) Circulatory overload

a) Definition - excessive IV fluids overloading circulatory system

b) Signs and symptoms

(1)

(2)

(3)

(4)

(5)

(6)

(7)

c) Nursing actions

(1)

(2)

(3)

(4)

c. Safety precautions

1) Prime all IV tubing

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2) Note rate of IV flow.

3) Note amount of fluid left in bag/bottle

4) Don't let IV run dry

5) Note patients reaction to therapy

6) Check needle injection site

3. Patient restraints

a. Principles and precautions related to use of restraints

1) Use of restraints must meet some need to help patient

2) All restraints that limit movement or immobilize must be ordered by physician

3) Restraints must not be used as a means of punishing or disciplining a patient

4) Restraints are applied with padding snugly but not tight enough to interfere with blood circulation

5) Patients position should be changed every 2-3 hours. Active/passive ROM should be performed

6) Avoid unnecessary knots in restraints

7) Avoid tying to moveable siderails or immovable portions of bed

b. Types of restraints

1)

2)

3)

4)

5)

4. Thermal applications

a. Principles in applications

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1) Heat causes dilation of blood vessels with increased blood supply to area

2) Heat stimulates cell metabolism, activity and growth

3) Cold contracts blood vessles with temporary decreased blood supply to area

4) Cold retards cell metabolism activity and growth

b. General purposes

1) Heat-

2) Cold-

c. Types

1)

2)

3)

4)

5)

6)

7)

8)

9)

d. Nursing considerations

1)

2)

3)

4)

5. Safety guidelines and reminders

a. Watch for unsafe conditions constantly

b. Report any unsafe conditions

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c. Observe and enforce NO SMOKING in areas so designated

d. Walk, do not run

e. Obey safety rules when working with any equipment

f. Keep all patient areas neat and clean

g. Report any incidents or injuries, no matter how slight

h. Become familiar with the common patient safety hazards

i. Become familiar with location and operation of fire extinguishers, local fire and disaster evacuation plans

G. Patient Discharge Procedure

1. Inform patient and explain procedure
2. Assist patient in dressing
3. Assist patient in securing personal items
4. Advise patient of follow-up appointments
5. Direct patient to nurse for further instructions
6. Direct patient to A&D for discharge and valuables
7. Assist patient from ward as necessary
8. Remove patient from ward TPR, BP, diet roster
9. Terminally clean and restock patient's unit
10. Make proper disposition of patient's records, x-rays etc., as per ward SOP

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Hygienic, Safety and Activity Needs of the Patient

Directions to students

1. At all PE stations you will be asked to practice and demonstrate skills. All students will be instructed at some stations to assume roles of both patient and corpsman with roles being reversed so each student will have equal opportunity to experience being both a patient and corpsman.

2. Secondary instructors will assist and help you in gaining skills in patient care. They invite your questions.

3. It is imperative that all students listen to all briefing sessions, instructions and demonstrations given you prior to the start of any given PE station.

4. It is expected you will move from one PE station to another PE station in a quiet, orderly fashion to avoid confusion. Individual discipline will be enforced as needed.

5. All students will be expected to help in keeping all areas neat and tidy.

6. All equipment and supplies/materials used will remain at the PE station or area.

   DO NOT remove anything from the buildings or station. Individual discipline will be enforced as needed.

7. Breaks will be scheduled within long blocks of PE hours on a spontaneous basis. Consult your instructor before deciding to take a break.

8. Audiovisual aids will be furnished as supplementary stations should you find you have excess time before advancing to another station.

9. All charting and identification of patient records will be done in black or blue-black ink except for portions of the Nursing Care Plan (pencil).

10. Write legibly, use correct grammar and spelling. It is expected all of you will begin using proper medical terminology in both communication and writing.

11. You will be expected to maintain standards of personal hygiene, dress and beginning professional conduct through this block of instruction and throughout the course.

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*This mimeo supersedes M 65-340-012-2, 057

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

M 65-340-012-3
028

Active/Passive Range of Motion

ABDUCTION - Movement away from midline of the body; turning outward

ADDUCTION - Movement of a limb toward the body's center; toward the midline

ATROPHY - The reduction of size in a structure after it has reached full functional maturity. When a muscle is unable or not called upon to work it shrinks and loses its capacity to perform work.

CIRCUMDUCTION - The distal part of a limb moving in a circle, the proximal end fixed

DISTAL - That which is farthest away from the center of the body

DORSIFLEXION - Bending backward (foot)

EVERSION - Turning outward

EXTENSION - Movement to increase an angle of a joint; straightening out the joint

EXTERNAL ROTATION - Turning outward away from the center

FLEXION - Bending the various joints; movement to decrease the angle of a joint

HYPEREXTENSION - Extension beyond the ordinary range

HYPERTROPHY - Increase in size of an organ or structure which does not involve tumor formation;increase in size but no increase in number of cells

INTERNAL ROTATION - Turning inward toward the center

INVERSION - Turning inward

MUSCLE TONE - Firmness and tauntness of a muscle

PLANTAR FLEXION - Bending forward (foot)

PRONATION - Turning downward

PROXIMAL - That which is nearest to the center of the body

ROTATION - Turning or movement of a part around its axis

SUPINATION - Turning upward

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*This mimeo supersedes M 65-340-012-4, 057

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NECK

Flexion--Extension

Bend neck forward, then back

1. Put chin on chest
2. Have patient look down during flexion
3. Have patient look up during extension

Lateral Flexion

Move head toward one shoulder, then the other

1. Have body in good alignment
2. Avoid bending neck forward

Rotation

Turn face to one side, then the other

1. Have patient look over his shoulder
2. Maintain good alignment

SHOULDER

Flexion--Extension

Raise arm overhead and return it to side

1. Support arm at elbow
2. Keep arm in close to side
3. Flex elbow if headboard interferes with movement
4. Bring elbow as close to head as possible

Abduction--Adduction

Move arm away from side and return it

1. Keep arm at bed level
2. Elbow may be flexed

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Internal--External Rotation

Roll arm (inward and outward) at shoulder

1. Abduct arm to 90 degrees and flex elbow
2. Move forearm to mattress, palm down
3. Move forearm 180 degress to mattress, palm up

ELBOW

Flexion--Extension

Bend forearm up, then straighten arm

1. Keep wrist straight
2. Have palm facing upward

FOREARM

Supination--Pronation

Turn hand-palm in, then palm out

1. Keep wrist straight
2. Elbow may be flexed
3. May be performed simultaneously with elbow flexion--extension

WRIST

Flexion--Extension

Bend hand up and down at wrist

1. Support forearm with one hand
2. Elbow may be flexed

Ulnar--Radial Deviation

Bend hand to one side then to the other

1. Support forearm
2. Keep wrist straight
3. Elbow may flexed

FINGER JOINTS

Flexion--Extension

Bend fingers into fist, then straighten them

1. Flex elbow
2. Support wrist
3. Keep thumb extended

Abduction--Adduction

Move each finger sideways from adjeacent finger, then back

1. Keep fingers straight
2. Do each finger separately

THUMB JOINTS

Flexion--Extension

Curl thumb down and extend it

1. Flex elbow
2. Hold palm up
3. Keep fingers straight

Opposition

Touch thumb to little finger, then move thumb away

1. Flex elbow
2. Hold palm up
3. Keep fingers straight

HIP AND KNEE

Flexion--Extension

Move knee toward chest, then move it back

1. Flex knee

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2. Move knee full extent toward chest
3. Avoid abducting or rotating leg
4. Work slowly

HIP

Abduction--Adduction

Move leg out to side, and return it to midline

1. Grasp leg under knee and heel
2. Keep leg at bed level
3. Prevent leg from rotating outward

Internal--External Rotation

Roll leg so that foot points in, then out

1. Keep knee straight, leg resting on bed
2. Grasp leg just above and below knee
3. Perform most of movement with hand above knee

ANKLE

Dorsiflexion--Plantar Flexion

Bend foot toward head, then point toes down

1. Keep knee straight
2. Keep foot straight

Inversion--Eversion

Bend foot inward, then outward

1. Keep leg from rolling
2. Move foot up and in
3. Move foot up and out

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TOE JOINTS

Flexion--Extension

Bend toes down, then straighten them

1. Stabilize leg
2. Flex and extend all toes at once

KNEE

Flexion--Extension

Bend knee and straighten it

1. Place patient in prone position
2. Move heel toward buttocks
3. Keep leg in good alignment

794

JOINT	NORMAL MOVEMENT OF JOINT	PART TO BE STABILIZED	PART TO BE MOVED
Shoulder	Flexion Extension Abduction Adduction Internal Rotation External Rotation Hyperextension Circumduction	Shoulder girdle	Arms
Elbow	Flexion Extension	Arm	Forearm
Wrist	Flexion Extension Abduction Adduction Supination Pronation	Forearm	Hand
Thumb	Flexion Extension Abduction Adduction Opposition	Fingers & Wrist	Thumb joint
Joints of Fingers	Flexion Extension Abduction Adduction	Lower part of hand	Fingers
Toe	Flexion Extension Abduction Adduction	Proximal part of foot	
Ankle	Dorsiflexion Plantar flexion Eversion Inversion	Leg	Foot
Knee	Flexion Extension	Thigh	Leg

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JOINT	NORMAL MOVEMENT OF JOINT	PART TO BE STABILIZED	PART TO BE MOVED
Hip	Flexion Extension Abduction Adduction Internal Rotation External Rotation Hyperextension	Pelvis	Thigh
Neck	Flexion Extension Rotation	Support head	Head

URINARY SYSTEM
ANTERIOR VIEW

M 65-340-012-4
028

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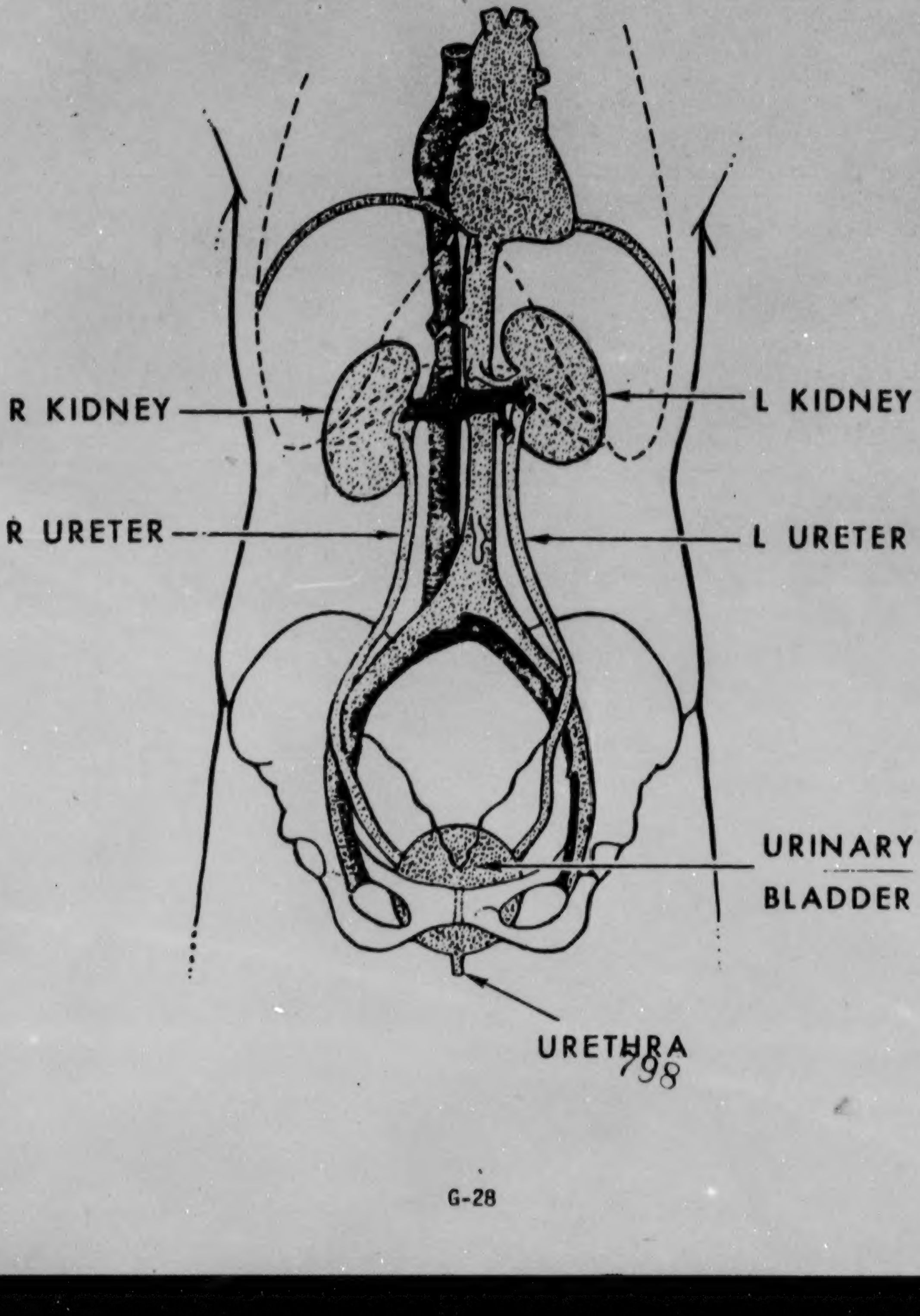
R KIDNEY
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L URETER
URINARY
BLADDER
URETHRA

798

*M 65-340-012-5
028

797

Patient Situation

Ike S. Yantsy, RA/MSG
67, male, caucasian, protestant
SSAN 662-80-226

0900 - You are assigned to Ward 16Z, a general medical ward. Today you are working days (7-3) when MSG(Ret) Yantsy is admitted via w/c from ER with a diagnosis of acute congestive heart failure (CHF). You have been asked to admit the patient. You observe that the patient is experiencing moderate breathing difficulty and place him in a high Fowler's position. You notify the Charge Nurse and are told to start oxygen at 2l/min per nasal prongs.

In addition to what you already know about the patient, you obtain the following additional Nursing Data Base information, indicated:

Admission vital signs: T 98.9°(O), P 86(A), R 24:
BP 136/82
Height: 5'6"; weight: 138 lbs
Hearing aid in right ear; upper and lower, full plate dentures
Allergies: Penicillin, aspirin
Patient complaints: "I seem to not be able to get my breath."
Patient states he routinely takes Digoxin and Lasix. Prior to coming to the hospital, he took only Digoxin .25mg
Patient gave all valuables to his wife to take home. You observe that the patient has a foley catheter placed by ER which is patent and draining straw-colored urine. You do note that the patient is in need of perineal care badly. While completing perineal care, you note a reddened area on the patient's right hip which you massage. You encourage the patient to stay off his right hip as much as possible.

0930 - You are asked by CPT Primer, the Charge Nurse, to start an IV of D5W TKO. You start the IV in the right arm, using a 21G Medicut.

1000 - While making rounds, you note the patient's respirations increasing. They are now 30. You inform the Charge Nurse of the change.

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*This mimeo supersedes M 65-340-012-5, 057

798

1200 - T 98.9°(O), P 90(A), R 32; BP 140/62. Patient had a soft-formed BM which was guaiac negative. Even though there has been an increase in respirations, you note no sign or evidence of cyanosis or frothy sputum. You inform the charge nurse of the current status of the patient. The patient ate hardly anything from his dinner tray.

Assignment:

1. Properly identify all patient chart forms in the appropriate places.
2. Write a patient admission note based on the information provided by the patient, your observations and all special care given to the patient.
3. Write continuing Nursing Notes as appropriate,from the information provided.
4. Utilizing the Nursing Admission Data Base information and Doctor's Orders, initiate a nursing care plan for this patient.
5. Accurately chart TPR; BP readings on the TPR Graphic Sheet

800

M 65-340-012-5
028

799

THIS SIDE UP WHEN PLACING IN CLINICAL RECORDS FOLDER

MICROFILM THIS SIDE FIRST

USE IMPRINT FROM ADDRESS PLATE OR MIMEOGRAPH.

MS	Mary Schnarkel, RN
MJ	Marth Jarvis, RN
DG	Della Gee, RN
OS	Odessa South, RN
HD	Helen Diesel, RN
CP	Constance Primer, CPT, ANC
ZS	Zuila Shono, 1LT, ANC
TE	Terry Ebens, SFC, 91C40
LC	Lonnie Classic, SP4, 91C20

YEAR 1977

DOCTOR'S ORDERS

ORIGINAL ORDERS SIGNED BY DOCTOR.
WHEN COPIED, NURSE SIGNS DOCTOR'S AND OWN NAME.

31 Aug 1) Admit To WARD 162
2) Diagnosis: Acute Congestive Heart Failure
3) Allergies: Penicillin, ASPIRIN
4) DieT: 2 gm NA Restricted.
5) Strict I & O
6) Fluid Restriction: 1500 cc/24°
7) IV: D5W TKO
8) Foley Catheter to Straight drainage
9) IRRigate Foley PRN
10) O_2 @ 2L/min NP

(D) DAY, (E) EVENING, (N) NIGHT

DATE DISC.	Aug 31	Sep 1	2	2	4		
DOCTOR'S INITIALS	SHIFT	SHIFT	SHIFT	SHIFT	SHIFT	SHIFT	SHIFT
	D E N	D E N	D E N	D E N	D E N	D E N	D E N

DD FORM 1 JUL 53 728 REPLACES DD FORM 639, 1 MAY 52; DD FORM 641, 1 MAY 52; AND DD FORM 642, 1 MAY 52, WHICH ARE OBSOLETE.

G-31

* GPO : 1971 O - 418-439

M 65-340-012-5
028

YEAR 1977

DOCTOR'S ORDERS (Con't)

ORIGINAL ORDERS SIGNED BY DOCTOR.
WHEN COPIED, NURSE SIGNS DOCTOR'S AND OWN NAME.

DATE DISC. / DOCTOR'S INITIALS

Aug Sep
DATE 31 1 2 3 4
SHIFT SHIFT SHIFT SHIFT SHIFT SHIFT SHIFT
D E N

31 Aug 11) VS q̄ 3°
12) Ted Stockings
13) Guaiac All stools, emesis and record results
14) Notify DR. if Resp. > 30, frothy sputum or cyanosis
15) Lab:
pt-ptt, CBC, Serum lytes, urine lytes STAT
Digoxin level in Am
16) Meds:
Lasix 20 mg Po q̄ Am
Digoxin .25 mg Po q̄ Am
DR. Steve Kiley, Cpt, MC

31 Aug 1) Digoxin .25 mg IV STAT NOW
2) Chest X-ray STAT NOW
Dr. Steve Kiley, Cpt, MC

SERVICE NO./SSAN: 662-80-226
WARD: 162

AT THE END OF EACH SHIFT, NURSE WHO COMPLETED ORDERS WILL PLACE OWN INITIALS IN PROPER COLUMN.

NAME: YAntsy, Ike S.
GR: R/A/ret
REGISTER NO.: 000-00
AGE: 67
DATE OF ADM:
G-32
DIAGNOSIS: Acute CHF

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

*M 65-340-012-6
028

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General Rules for Charting

1. Entries on the patient's chart should be printed or handwritten. After completing the account, sign the chart with your complete name, rank and MOS or Corps, e.g., Joe W. Spilker, SP4, 91C20.

2. Ditto marks may NOT be used.

3. DO NOT erase. Erasures provide reason for question if the chart is used in court. If a mistake is made, a single line is drawn through the mistake and initialed. Charting is then continued in a normal manner, e.g.:

   (J.S.)
   ~~1000 S.S. enema given. Solution returned clear~~
   Joe W. Spilker, SP4, 91C20

   1000 Fleet's enema given. Solution returned clear
   Joe W. Spilker, SP4, 91C20

4. Be exact in charting time, effect and results of all treatments and procedures.

5. Describe clearly and concisely the character and amount of drainage, vomitus, stools, and urine. Record patient complaints and general behavior. Describe the type, location, onset and duration of pain.

6. Note the time of physician's visit, examination, and/or treatments.

7. Leave no blank lines in the charting. Draw a line through the center of an empty line or part of a line. This prevents charting by someone else in an area signed by you.

8. Complete all charting in blue/black or black ink.

9. Chart time patient leaves the unit for treatment, surgery, or diagnostic procedure and time of return.

10. Use standard abbreviations.

11. Postoperatively, chart pulse, respiration, blood pressure, general condition of patient, time of reaction from anesthesia, condition of dressing of wound, and other pertinent factors about patient placed in your care.

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*This mimeo supersedes M 65-340-012-6, 057

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12. In the event of death, chart time of death, doctor certifying the expiration, date and time body transferred to morgue, disposition of patient's belongings and any other pertinent information per hospital or ward SOP.

13. Addressograph each page of the patient's chart.

14. Use present tense. Never use future tense such as "patient to be ambulated."

15. Spell correctly. If you are not sure about the spelling of a word, use a dictionary to look it up.

Specific Charting Suggestions

Record vital information regarding the patient on the appropriate forms. These entries include:

1. General baths and packs - record an accurate description thereof.
2. Dressings - chart the appearance of the wound, drainage, and type of dressing applied.
3. Diet - chart type and amount of food taken, and amount of fluids.
4. Output - emesis, B.M., wound drainage, urine, perspiration, and amount obtained from suction.
5. Temperature of applied heat, type, how long applied, and where applied; chart cold measures applied, type, how long, and where applied.
6. Body care - chart hour, back care, care of decubitus (if needed), mouth care, type of bath, and positioning. Indicate special procedures or appliances used. State body positioning and needed supports.
7. Ambulation - chart time, distance, and tolerance.
8. Diagnostic tests - note time, type, unusual occurrences, patient reaction and outcome.
9. Specimens - identify and label. Chart time and kind sent to laboratory.

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10. The time oxygen was begun and discontinued and method used (mask, cannula, etc.).

11. Any medications given, the time and amount.

12. IV's - chart when begun, kind, where started, and number of drops/minute. When discontinued, chart time completed, amount, condition of tissue, and patient reaction.

13. All procedures accomplished: type, time, outcome, and patient reaction.

14. Any mental symptoms, state of consciousness, convulsions, or untoward behavior. State general attitude, time, place, and outcome.

15. Bleeding or unusual discharge.

16. Surgical preparation.

17. Admission, discharge or death of patient. Follow procedure of health facility and chart all information pertaining to the patient.

Descriptive Terms Commonly Used in Charting

Word	Idea to be Charted	Suggested Terms to Use
Abdomen	1. Black and blue color noted	1. Bruised (appears), ecchymotic
	2. Bloated; filled with gas	2. Tympanitus, distended
	3. Hurts when touched	3. Sensitive to touch; tender
	4. Hard: boardlike	4. Rigid
	5. Large: extends outward	5. Protruding
	6. Soft; flabby; flat	6. Soft; flaccid; flat
	7. Appears swollen, rounded	7. Distended
	8. Presence of rash	8. Rash present (mild, severe)
	9. Scars present	9. Scarified

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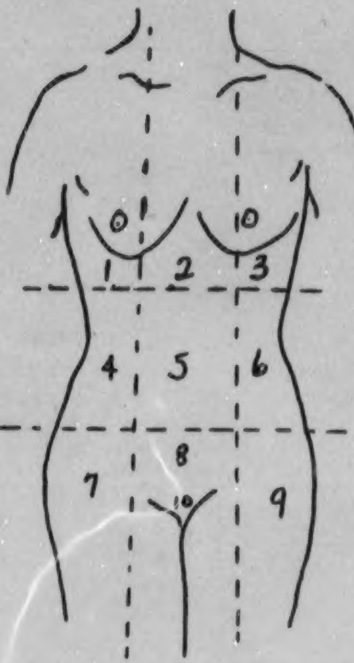
Areas or regions of the abdomen

1. Right hypochondriac area
2. Epigastric area
3. Left hypochondriac area
4. Right lumbar region (in back and side)
5. Umbilical (Naval) area
6. Left lumbar region (in back and side)
7. Right iliac
8. Hypogastric area
9. Left iliac
10. Genitourinary area



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Word	Idea to be Charted	Suggested Terms to Use
Amounts	1. Large amount	2. Profuse, copious, free, excessive, measured amount
	2. Moderate amount	2. Moderate, usual, measured amount
	3. Small amount	3. Small amount, scanty, slight, very little measured amount
Appearance, general	1. Thin and undernourished	1. Emaciated
	2. Fat, overweight	2. Obese
	3. Seems very sick	3. Acutely ill
	4. Not very sick	4. Not acutely ill
	5. Fails to notice things	5. Apathetic, indifferent
	6. Extremely worried; nervous	6. Anxious, shows anxiety
	7. Appears to have blue color	7. Cyanotic
	8. Extremely happy; fails to accept reality as it is	8. Euphoric
	9. Skin appears yellowish	9. Jaundiced
Appetite	1. Craves certain foods	1. Parorexia
	2. Desire to eat materials not accepted as food (chalk, dirt)	2. Perverted appetite
	3. Eats everything served and asks for more food	3. Hearty appetite
	4. Appears never to get enough food	4. Insatiable appetite

Word	Idea to be Charted	Suggested Terms to Use
Appetite (cont)	5. Eats all food served	5. Good appetite
	6. Eats very little of food served	6. Poor appetite
	7. Refuses to eat	7. Refused food (state reason)
	8. Eats only small amount	8. Fair appetite
	9. Loss of appetite	9. Anorexia
Arm (extremity)	1. Shoulder to elbow	1. Upper arm
	2. Elbow to wrist	2. Lower arm
	3. With much extra tissue	3. Plump to obese
	4. Appears puffy or swollen	4. Edematous, edema present
	5. Artificial arm	5. Artificial arm (state which arm)
Attitude (mental)	1. Afraid; worried	1. Anxious; fearful
	2. Does not believe what is said	2. Distrustful; suspicious
	3. Fixed idea (right or wrong)	3. Obsession
	4. Behavior that forces self or ideas on others	4. Aggressive
	5. False belief; insists upon	5. delusion
	6. Centers attention upon self	6. Introvert
	7. "Don't care" attitude	7. Apathetic
	8. Not interested in surroundings.	8. Indifferent

Word	Idea to be Charted	Suggested Terms to Use
Attitude (mental)	9. Happy, carefree	9. Cheerful, optimistic
	10. Seems to feel guilty and worries about unreal things	10. Appears depressed
Back (areas)	1. Upper back	1. Shoulder area; thoracic area; interscapular region
	2. Small of back	2. Lumbar area
	3. End of spine	3. Sacral area
	4. Buttocks; gluteal area	4. Buttocks; gluteal area
	5. Humped back	5. Kyphosis
	6. Sway back	6. Eordosis
	7. Curved back	7. scoliosis
Backrest	1. Backrest raised	1. Backrest elevated (indicate angle, degree of)
Baths	1. Given when patient arrives	1. Admission bath
	2. Entire body	2. Complete bath
	3. Face, arms, back, axilla, genitals,	3. Partial bath
	4. Special baths (treatment)	4. Name of bath, i.e., Sitz
	5. Taken in bed	5. Bedbath
	6. Taken in tub or special tub	6. Tub bath or Sitz bath

Word	Idea to be Charted	Suggested Terms to Use
Belch	1. Belching	1. Eructation, burping
Bleeding	1. In large amount and in spurts	1. In spurts; profuse
	2. Very little	2. Oozing; minimum amount
	3. Nosebleed	3. Epistaxis
	4. Blood in vomitus	4. Hematemesis
	5. Blood in urine	5. Hematuria
	6. Blood in sputum	6. Hemoptysis
	7. When bleeding is stopped	7. Hemorrhage, controlled
Blister	1. Raised area on skin filled with water.	1. Vesicle
Blood Pressure	1. Blood pressure 120/74	1. BP 120/74 (Example) strong, weak
Breast	1. Each appear same size	1. Of equal size
	2. Inflammation	2. Mastitis
	3. Large; hard	3. Engorged
	4. Satisfactory in appearance	4. Developed normally
	5. Nipple always depressed	5. Inverted nipple
	6. Period of milk formation	6. Lactation

Word	Idea to be Charted	Suggested Terms to Use
Breath (breathing)	1. Taking in air	1. Respiration; inspiration
	2. Breathing air out	2. Respiration; expiration
	3. Normal breathing	3. Eupnea
	4. Difficult breathing	4. Dyspnea
	5. Short time without breathing	5. Apnea
	6. Rapid breathing	6. Hyperpnea
	7. Cannot breathe lying down	7. Orthopnea
	8. Snoring sounds of breathing	8. Stertorous respiration
	9. Unpleasant	9. Halitosis
	10. Increasing dyspnea with periods of non-breathing	10. Cheyne-Stokes respiration
	11. Suffocation	11. Asphyxia
	12. Large amount of air taken	12. Deep breathing
	13. Small amount of air taken	13. Shallow breathing
	14. Abnormal variation of breath	14. Irregular respiration
	15. Sweet, fruitlike odor	15. Fruity, sweet
	16. Foul	16. Fetid
	17. Smells of alcohol	17. Alcoholic

Word	Idea to be Charted	Suggested Terms to Use
Care	1. Wash face, hands, mouth toilette	1. Early A.M. care
	2. Bath, toilet, mouth care, backrub, ROM, care of hair and nails	2. Routine A.M. care
	3. Wash hands, face and back, backrub, toilet, mouth care	3. P.M. care
	4. Special care (mouth, skin)	4. Special care to (mouth, skin)
Chest	1. Abnormally shaped	1. Deformed
	2. Looks rounded front and back	2. Barrel-chest
	3. Looks abnormally small	3. Shrunken
	4. Hurts when moving or breathing	4. Pain on moving, pain on breathing
Chill	1. Came on suddenly	1. Sudden onset
	2. How long it lasts	2. Duration of (state time); prolonged, short, persistent or intermittent
	3. Extent (severity) of chill	3. Moderate, severe, slight
Color (urine, feces)	1. Without color	1. Clear, colorless
	2. Of normal urine	2. Straw-colored to amber
	3. Resembling clay	3. Clay-colored
	4. Looks same as tar	4. Tarry
	5. Tinged with blood	5. Blood-tinged

Word	Idea to be Charted	Suggested Terms to Use
Coma	1. Partly in coma	1. Partially comatose
	2. In deep coma	2. Profound coma
Consciousness	1. Aware of surroundings	1. Alert-conversant, fully conscious
	2. Partly conscious	2. Lethargic, semiconscious
	3. Not conscious, but can be aroused	3. Stuporous
	4. Unconscious, cannot be aroused	4. Comatose
Consistency	1. Remains together, retains shape	1. Formed
	2. Running like water	2. Liquid
	3. Thick, sticky and gluelike	3. Concentrated; viscous; tenacious
	4. Contains and looks like mucus	4. Mucoid
Convulsion	1. Muscles contract and relax (shaking with intervals of rest)	1. Clonic tremor or convulsion
	2. Muscle contraction maintained for long period(continuous shaking)	2. Tonic tremor or convulsion
	3. Localized muscle contraction	3. Jacksonian
	4. Began without warning	4. Sudden onset
	5. Spasm or convulsive seizure	5. Paroxysm

Word	Idea to be Charted	Suggested Terms to Use
Cough	1. Coughs all the time	1. Continuous cough
	2. Coughs over long period of time	2. Persistent cough
	3. Coughs up material	3. Productive cough
	4. Coughs without producing material	4. Non-productive cough
	5. Occurring in spasm	5. Spasmodic cough
	6. Coughs quite often	6. Frequent cough
	7. With characteristic "whoop" on inspiration	7. Whooping cough
	8. Coughs with certain attacks	8. Paroxysmal cough
	9. Various types	9. Loose, deep, dry, painful, exhaustive, tight, hacking, hollow, harsh, explosive, crowing
Decay	1. Of teeth	1. Dental caries
	2. Of tissue	2. Necrosis, necrotic
Defecation (bowel movement)	1. Bowel movement (material) bowel movement (act of)	1. Feces, stool defecation
	2. Excessive defecation	2. Diarrhea
	3. Gray-colored stool	3. Clay-colored stool
	4. Dark brown liquid stool	4. Highly colored liquid stool
	5. Soft material	5. Soft, formless or soft-formed stool

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Word	Idea to be Charted	Suggested Terms to Use
Defecation (bowel movement)	6. Hard-formed stool expelled with difficulty, pellet-like	6. Constipated; hard-formed stool
Dizziness	1. Feeling of being unstable, unsteady; dizzy	1. Vertigo
Drainage	1. Second dressing added over original	1. Dressing reinforced
	2. Dressing removed; reapplied	2. Dressing changed
	3. Sterile dressings	3. Sterile dressing applied
Ears	1. Wax in the ears	1. Cerumen
	2. Ringing sensation in ears	2. Tinnitus
	3. Dizziness	3. Vertigo
	4. Abnormal in shape	4. Deformed
Emesis	1. Agent given to produce emesis	1. Emetic
	2. Produced by effort of patient	2. Induced
	3. Ejected forcefully without warning	3. Projectile
	4. Blood particles in content	4. Blood-tinged
Enemas	1. Liquid given to induce expulsion of feces	1. Cleansing enema
	2. For nourishment	2. Nutritive enema

Word	Idea to be Charted	Suggested Terms to Use
Enemas (cont)	3. To rid gas	3. Carminative enema
	4. To expel worms	4. Anthelmintic enema
	5. To remain for some time	5. Retention enema
	6. To aid in fluoroscopic diagnostic exam	6. Barium enema
Expectoration	1. Spitting up saliva	1. Expectorate
	2. Much and/or little amount	2. Profuse and/or small or scant
	3. Spitting up blood	3. Hemoptysis
	4. Mucus with blood particles	4. Blood-tinged
Eyes	1. Ability to see well (sharpness of vision)	1. Visual acuity
	2. Near-sightedness	2. Myopia
	3. Far-sightedness	3. Hyperopia
	4. Sees objects indistinctly	4. Blurred vision
	5. Dilation of pupil	5. Dilated pupil
	6. Small, pin-point, contracted, etc.	6. Contracted pupil; "pin-point"
	7. Sees double (two of things)	7. Diplopia
	8. Squinting	8. Strabismus
	9. Puffy; appears swollen	9. Edematous

Word	Idea to be Charted	Suggested Terms to Use
Eyes (Cont)	10. Drooping eyelids	10. Ptosis of lids
	11. Whites of eyes appear yellow	11. Jaundiced
	12. Inflammation of socket and lid lining	12. Conjunctivitis
	13. Stye on eyelid	13. Hordeolum
	14. Motionless, not moving,	14. Fixed
	15. Unusually sensitive to light	15. Photophobia
	16. Eyeball appears to stick out of socket	16. Exophthalmia (as in hyperthyroidism or goiter)
	17. Other characteristic terms	17. Bright, clean, dull, inflamed, sunken, crossed, bloodshot, burning, smarting
Face	1. Without color	1. Pale
	2. Unsually pink	2. Flushed
	3. Broken areas of skin (broken out)	3. Acne or rash
	4. Black and blue colored	4. Appears bruised
	5. Marked with scars and pits	5. Pock-marked
	6. Characteristic expressions worn	6. Defiant, sad, angry, fearful, worried, happy, anxious, dissatisfaction, pained, boredom
Faint	1. Losing consciousness, fainting	1. Syncope

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Word	Idea to be Charted	Suggested Terms to Use
Feet	1. Reddened spots or places caused by pressure or friction; blistered	1. Pressure area present; blister(s) present
	2. Puffy, appears swollen or enlarged	2. Swollen, edematous
	3. Other terms to describe	3. Warm, cold, hot, painful, gangrenous
Fever	1. Without fever	1. Afebrile
	2. Fever, temperature above normal	2. Pyrexia
	3. Greatly above normal	3. Hyperpyrexia
	4. Elevated temperature suddenly returns to normal	4. Crisis
	5. Elevated temperature gradually returning to normal	5. Lysis
Fingers	1. Appear square across and curved at the end	1. Clubbed
	2. Coming to fine point at end	2. Tapering
Gas	1. Gas in the digestive tract	1. Flatus
	2. Distension caused by accumulation of gas	2. Flatulence
Gums	1. Tender, inflammed	1. Gingivitis
	2. Pulling away from teeth	2. Receding; shrunken
	3. Healthy looking	3. Pink, firm
	4. Other terms to describe	4. Spongy, bleeding

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Word	Idea to be Charted	Suggested Terms to Use
Head (Cont)	6. Unusually large head	6. Macrocephalous
	7. Unusually small head	7. Microcephalous
Heart beat	1. Irregularity of heartbeat	1. Arrhythmia
	2. Slowness of heartbeat	2. Bradycardia
	3. Fast heartbeat	3. Tachycardia
Hives	1. Hives (raised areas on skin)	1. Urticaria
	2. Itching	2. Pruritus
Joints	1. Bent	1. Flexion
	2. To straighten	2. Extension
	3. Turned downward	3. Pronation
	4. Turned upward	4. Supination
	5. Revolve around	5. Rotation
	6. Move away from center line	6. abduction
	7. Move toward center line	7. adduction
	8. A stiff joint	8. Ankylosis
	9. Inflammation of a joint	9. Arthritis
	10. Stretching or wrenching of a joint	10. Sprain
Legs (areas)	1. Between knee and hip	1. Thigh
	2. Thigh to knee	2. Upper leg
	3. Knee to ankle	3. Lower leg

Word	Idea to be Charted	Suggested Terms to Use
Lice	1. Animal parasites on body	1. Pediculi
	2. of head area	2. Pediculosis capitis
	3. of body area	3. Pediculosis corporis
	4. of pubic area	4. Pediculosis pubis
Lips	1. Pale, colorless	1. Pale
	2. Blue in color	2. Cyanotic
	3. With tiny cracks	3. Fissured; cracked
	4. Fever blisters present	4. Presence of herpes simplex (cold sore)
Lungs	1. Abnormal sounds in	1. Rales
Memory	1. Loss of memory	1. Amesia
Muscle	1. Lack of normal tone or size; wasting	1. Atrophy
	2. Inflammation	2. Myositis
	3. Stretching of	3. Strain
Nails	1. Blue in color	1. Cyanotic
	2. Other descriptive terms	2. Clean. dirty. broken, manicured, brittle
Nose	1. Nosebleed	1. Epistaxis
	2. Other descriptive terms	2. Red, enlarged, deformed

Word	Idea to be Charted	Suggested Terms to Use
Odor	1. Not pleasant; pungent; spicy	1. Aromatic
	2. Like fruit	2. Fruity
	3. Unpleasant	3. Offensive; foul
	4. Like ammonia	4. Ammoniacal
	5. Belonging to a particular thing, drug, etc.	5. Characteristic
Pain	1. Much pain; great	1. Severe
	2. Little amount	2. Slight
	3. Comes in seizures	3. Spasmodic; paroxysmal
	4. Spreads to certain area	4. Radiating
	5. Begins suddenly	5. Sudden onset
	6. Hurts worse when moving	6. Increased by movement
	7. Other terms to describe	7. Aching, dull, burning, throbbing, gnawing, acute, chronic, generalized, deep, superficial, excruciating, unyielding, cramping, shooting, darting, colicky, continuous, shifting, agonizing, piercing, intense, transient, localized, remittent, persistent, sharp, sudden, stabbing, constant

Word	Idea to be Charted	Suggested Terms to Use
Hair	1. Clean, good appearance	1. Clean, glossy
	2. Unclean, coarse	2. Dirty; greasy; coarse
	3. Absence of hair	3. Alopecia
	4. Other terms to describe	4. Tangled, neglected, unkempt, bleached, dyed
Hallucination	1. Abnormal senses not observed by others	1. Hallucination
	2. of hearing (sounds or voices)	2. Auditory hallucination
	3. of sight (visual images)	3. Visual hallucination
	4. of smell (abnormal odors)	4. Olfactory hallucination
	5. of taste	5. Gustatory hallucination
Hands	1. Fingers square and curved	1. Clubbed fingers
	2. Shaking continuously	2. Trembling
	3. Wet, dry	3. Moist, dry
	4. Hot, cold	4. Hot, cold
	5. Other terms to describe	5. Dirty, rough broken nails
Head	1. Forehead	1. Frontal region
	2. Region over temple	2. Temporal region
	3. Side of head at top part	3. Parietal (right or left) region
	4. Back of head	4. Occipital region
	5. Base of skull	5. Basilar region

Word	Idea to be Charted	Suggested Terms to Use
Paralysis	1. Face muscles unable to move	1. Facial paralysis
	2. Leg muscles unable to move	2. Paraplegia
	3. One side of the body	3. Hemiplegia
	4. Four extremities unable to move	4. Quadriplegia
	5. Single limb unable to move	5. Monoplegia
Perspiration	1. Large amount	1. Profuse, excessive
	2. Small amount	2. Scanty or slight
Positions of the body	1. Flat on back, arms straight at sides	1. Dorsal, supine
	2. On side, knees flexed	2. Lateral
	3. On left side, left arm behind back, right leg flexed	3. Sims
	4. Dorsal, head elevated, knees flexed	4. Fowler's
	5. Dorsal, knees flexed, head slightly elevated	5. Semi-Fowler's
	6. On back with heels brought close to buttocks; knees bent	6. Lithotomy
	7. On back; knees flexed	7. Dorsal-recumbent
	8. Resting on knees and chest	8. Knee-chest
	9. On back; pelvis higher than head	9. Trendelenburg

Word	Idea to be Charted	Suggested Terms to Use
Positions of the body (Cont)	10. On abdomen; head turned to one side	10. Prone
	11. Prone with hips over break in bed/table, feet below level of head	11. Jackknife
Pulse	1. Number of beats per minute	1. Rate
	2. Rhythm	2. Regular or irregular
	3. Beats missed at intervals	3. Intermittent
	4. Over 100 per minute	4. Rapid
	5. Slow in rate	5. Slow
	6. Beats indistinct (rapid)	6. Running
	7. Beats hardly perceptible	7. Thready
	8. Rapid, distinct beats	8. Bounding
	9. Cannot be felt	9. Imperceptible
	10. According to strength	10. Weak, strong
Sensation	1. Feeling experienced	1. Tingling, burning, stinging, prickling, hot, cold
Skin	1. Normal	1. Healthy
	2. Pink, hot	2. Flushed
	3. Blue in color	3. Cyanotic
	4. Very white	4. Extreme pallor, pale

Word	Idea to be Charted	Suggested Terms to Use
Skin (Cont)	5. Shines	5. Glossy
	6. Raw surface	6. Excoriation
	7. Yellow in color	7. Jaundiced
	8. Torn	8. Lacerated
	9. Cold and moist	9. Clammy
	10. Boil	10. Furuncle
	11. A discolored spot	11. Macule
	12. A pimple	12. Papule
	13. A blister	13. Vesicle
	14. A pimple filled with pus	14. Pustule
	15. Containing colored areas	15. Pigmented
	16. Wet	16. Moist
	17. Scraped	17. Abraided
	18. Small ecchymosis of skin	18. Petchia
	19. Area where skin is rubbed off	19. Abrasion
	20. Redness of	20. Erythema
	21. Other descriptive terms	21. Mottled, discolored, moist, dry, hot, cold, warm, oily, broken, calloused, wrinkled, infected, tight, coarse, of fine texture, tanned.

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Word	Idea to be Charted	Suggested Terms to be Used
Skin (Cont)	22. Indicate presence of:	22. Rash, abrasion, laceration, insect bites, tumors, eruptions, acne, crusts, scars, ulcers, moles, fissures, abscess.
Sleep	1. Slept very little	1. Slept very little, slept at short intervals.
	2. Tired when awaken	2. Awakens fatigued
	3. Inability to sleep	3. Insomnia
Specimen	1. Sent to the laboratory	1. Specimen to laboratory (spec. to lab) Specify what kind
Speech	1. Not understandable	1. Incoherent
	2. Meaningless, wandering	2. Rambling
	3. Words run together	3. Slurring
	4. Stammering, stuttering	4. Stammering, stuttering
	5. Not heard distinctly	5. Inarticulate
	6. Difficulty in speaking	6. Dysphagia
	7. Unable to speak	7. Aphasia
	8. Other terms to describe	8. Hoarse, feeble, fluent
Symptoms	1. Observed by the patient	1. Subjective
	2. Observed by others	2. Objective
	3. A group of symptoms	3. Syndrome

Word	Idea to be Charted	Suggested Terms to Use
Teeth	1. False teeth	1. Dentures
	2. Decay	2. Dental caries
	3. Collection of material on	3. Sordes
	4. Other terms to describe	4. Notched, decayed, natural, crooked, protruding, crowded, irregular, broken, loose
Throat	1. Difficulty in swallowing	1. Dysphagia
	2. Inability to swallow	2. Aphagia
	3. Other descriptive terms	3. Red, swollen, inflammed irritated
Tongue	1. Terms to describe	1. Pink, moist, dry, cracked, raw, coated, swollen, ulcerated, inflammed
Treatment	1. To prevent	1. Prophylactic
	2. To give temporary relief	2. Palliative
Urination	1. To urinate	1. Void, micturate, urinate
	2. Unable to control	2. Incontinent; involuntary
	3. Burning when voids	3. Burning sensation on micturation, voiding or urination
	4. Large amount	4. Diuresis
	5. No urine passes	5. Anuria
	6. Frequent night urination	6. Nocturia

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Word	Idea to be Charted	Suggested Terms to Use
Urination (Cont)	7. Frequent and increased urination	7. Polyuria
	8. Pus in urine	8. Pyuria
	9. Sugar in urine	9. Glycosuria
	10. Blood in urine	10. Hematuria
	11. Albumin in urine	11. Albuminuria
	12. Scantiness of urine	12. Olguria
	13. Wetting bed	13. Enuresis
	14. Stones in urine	14. Calculi
	15. Painful urination	15. Dysuria
	16. Other terms to describe	16. Cloudy, with sediment, straw-colored, coffee-colored, excessive amount
Weight	1. Overweight	1. Obese
	2. Thin, underweight	2. Emaciated
Wounds	1. Deep	1. Deep
	2. Surface	2. Superficial
	3. Not infected	3. Clean
	4. Pus discharges from	4. Suppurating
	5. Infected	5. Infected
	6. Torn	6. Lacerated

Bedbath

1. Inform patient of procedure and offer urinal or bedpan.
2. Gather equipment and assure patient privacy.
3. Perform oral care if patient is unable to do so, to include brushing and use of mouthwash.
4. Loosen top sheet at the feet and remove pillow.
5. Lower bed to level working position.
6. Move the patient to the near side of the bed, always remembering to turn patient toward you.
7. Remove pajamas and place a hand towel under the patient's head and a bath towel over the chest.
8. Secure the ends of the washcloth in the hand to avoid dangling corners.
9. Check for soap allergy. Starting at the top of the body, bathe the eyelids first. Never use soap around the eyes. Use a different portion of the cloth for each eye. Wash the face if patient is unable to do so, and then the ears.
10. Moving down the body, wash and rinse the arms, the trunk, the legs and finish by washing both feet.
11. Change the water.
12. Turn the patient, wash and rinse the back and buttock area.
13. Change the water.
14. Turn patient to supine position. If the patient is alert and able, have them wash their own genital area. If the patient is unable to do so, you will cleanse genitalia, always remembering to provide patient privacy.
15. Assist patient into clean pajamas and make an occupied bed.

This Mimeo supersedes M-65-340-012-7, 057.

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16. Turn patient prone in position of comfort.

17. Give back massage.

18. Turn patient and position for comfort.

19. Clean the area.

Male Catheterization

1. Check physician's orders

2. Gather equipment. (Read contents of package)

3. Explain procedure to patient.

4. Wash hands.

5. Attach drainage bag to bed frame.

6. Position patient remembering to provide patient privacy.

7. Open catheterization tray.

8. Place top drape (from tray) under patient's buttocks with shiny side down.

9. Open catheter and place on sterile field.

10. Don sterile gloves.

11. Inspect catheter for defects (indwelling only)

12. Place fenestrated drape (eye sheet) on patient exposing penis.

13. Pour cleaning solution over cotton balls.

14. Squeeze liberal amount of lubricant into plastic tray.

15. Loosen top on specimen bottle and replace by resting it on top of bottle.

16. Using left (right) gloved hand, grasp penis to be cleansed.

17. With sterile hand, take forceps and pick up cotton balls (swabs).

18. Squeeze head of penis gently to open meatus.

19. Cleanse meatus in a circular motion starting from the bottom and returning to the starting point. Discard cotton ball.

20. Cleanse rest of penis in same manner from head of penis progressing to corona of penis. Use one cotton ball in each circular swipe and discard.

21. Move cath tray close to patient.

22. Pick up catheter maintaining control by forming it in a circle. Hold about 3 inches from tip and lubricate.

23. Thread catheter gently into urethra until the junction of the catheter meets the opening of the meatus.

24. Squeeze catheter to stop flow of urine with unclean hand after about 120 cc's of urine has drained.

*25. If specimen is required, collect approximately 120 ml (after initial flow) into specimen bottle, close lid on bottle and set aside.

26. Pinch off catheter and inject required 8 to 9 cc of sterile water into balloon lumen.

27. Pull catheter to insure proper placement.

28. Connect catheter to urine drainage bag.

29. Secure catheter in place on abdomen with adhesive tape.

30. Pin tubing to sheet.

31. Insure patient comfort.

32. Chart procedure in Nursing Notes.

33. Clean the area.

* If indwelling catheter is not ordered, omit steps 25 thru 29 and remove catheter.

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Female Catheterization

1. Check physician's orders.
2. Assemble equipment (Read contents of package)
3. Explain procedure to patient.
4. Wash hands.
5. Attach drainage bag to bed frame.
6. Position patient remembering to provide patient privacy.
7. Open catheterization tray.
8. Place top drape, (from tray) under patient s buttocks. (shiney side down)
9. Open catheter and place on sterile field.
10. Don sterile gloves.
11. Inspect catheter for defects. (indwelling only)
12. Place fenestrated drape, (eye sheet) on patient exposing vulva.
13. Pour cleaning solution over cotton balls on swabs.
14. Squeeze liberal amount of lubricant in plastic tray.
15. Loosen top on specimen bottle and replace by resting it on top of bottle.
16. Using left (right) gloved hand, separate the labia to expose urinary meatus. (This glove is no longer sterile)
17. With right (left) gloved hand and using forceps, pick up cotton ball. With no retracing, cleanse, with downward stroke, the labia minora farthest from you.
18. Repeat #17, cleaning labia minora closest to you.
19. Repeat#17, cleaning meatus. Discard remaining cotton balls and forceps.
20. Move cath tray close to patient.

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21. Pick up catheter, maintaining control by forming it in a circle, hold it about 3 inches from tip, lubricate tip.

22. Insert catheter into meatus about 2 inches or until urine begins to flow (use gentle pressure but do not force if resistance is met).

23. Direct the urine flow to sterile tray.

24. If specimen is required, collect approximately 120 ml, (after initial flow) into specimen bottle, close lid on bottle and set aside.

*25. Pinch off catheter and inject required amount of sterile water into balloon lumen.

26. Pull catheter gently to insure security.

27. Connect catheter to the urine drainage bag.

28. Secure catheter in place with adhesive tape - anchor catheter to skin of inner thigh placing adhesive toward groin - pin tubing to sheet.

29. Insure patient comfort.

30. Chart procedure in Nursing Notes.

31. Clean the area

* If indwelling catheter is not ordered omit steps 25 thru 28 and remove catheter

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

*M 65-340-013-1
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Asepsis

Objectives:

1. Given a list of terms or definitions related to asepsis, select the appropriate definition or term as stated in class.
2. Given a list, match the terms to their specific element in the chain (cycle) of infection as stated in class.
3. Given a diagram of the chain (cycle) of infection and a list of terms, match the terms to their elements in the chain as stated in class.
4. Given a list, select the definition of medical and surgical asepsis as stated in class.
5. Given a list, select the specific purpose(s) for using medical or surgical asepsis as stated in class.
6. Given a list, select the essential components of proper medical handwashing technique as discussed in class.
7. Given a list, select the five (5) types of isolation techniques or precautions employed to isolate or control the spread of infection, as discussed in class.
8. Given a specific isolation technique or precaution, select those measures utilized to establish and maintain the isolation area as discussed in class.
9. Given a situation, select the proper isolation technique used to isolate or control the spread of infection as discussed in class.
10. Given a list, select the signs and symptoms of a wound infection as stated in class.
11. Given a situation, select which basic concept of sterility was utilized as discussed in class.

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*This mimeo supersedes M 65-340-013-1, 057

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12. Given a list, select those rules of sterility which, when followed, will maintain sterility, or when broken will render a field or object unsterile, as stated in class.

13. Given a list, select the sterilization or disinfection techniques related to medical or surgical asepsis as discussed in class.

14. Given a list of procedures, select whether medical or surgical aseptic technique is utilized as discussed in class.

PERFORMANCE

15. Given the proper equipment and after practice perform medical handwashing technique as demonstrated in class.

16. Given the proper equipment and after practice perform donning and removal of a gown, mask and sterile gloves without contamination as demonstrated in class.

*17. Given the proper equipment and after practice perform the establishment and maintenance of an isolation area to include: control of elements introduced into the area, removal of linen and waste using the double-bag technique as demonstrated in class.

18. Given the proper equipment and after practice, perform concurrent and terminal cleaning of an isolation unit as demonstrated in class.

19. Given the proper equipment and after practice perform, opening a sterile pack, establish and maintain a sterile field, pour a sterile liquid, open a sterile package and withdraw fluid from a multidose vial as demonstrated in class.

20. Given the proper equipment and after practice perform the removal of a contaminated dressing, obtaining a wound culture, application of a sterile dressing and disposal of contaminated waste as demonstrated in class.

*21. Given the proper equipment and after practice remove sutures as demonstrated in class.

*Terminal objectives

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NOTES

A. Terminology Related to Asepsis

1. Microorganism - a tiny living animal or plant that can only be seen with the aid of a microscope.

2. Nonpathogen - a microorganism that does not cause disease or infection under ordinary circumstances

3. Pathogen - a microorganism that causes disease or infection.

4. Asepsis - absence of pathogens or infection.

5. Sepsis - presence of pathogens with resultant infection.

6. Infection - invasion of the body by pathogens with a resultant disease condition.

7. Nosocomial - hospital acquired infection.

B. Chain (Cycle) of Infection

1. Causative agent (pathogen)

    a.

    b.

    c.

2. Reservoir (source) of infection

    a.

    b.

    c.

3. Portal of exit

   a.

   b.

   c.

   d.

   e.

   f.

4. Mode of transportation/transmission - most amendable link in the chain of infection

   a. Types of transmission

      1) Endogenous contact - contact infection from one area of body to another in same person: for example, infected wound to scratch on skin

      2) Person to person

         a) Direct - actual physical contact with infected person or animal

         b) Indirect - contact with contaminated objects

   b. Vehicles of transmission

      1)

      2)

      3)

      4)

      5)

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6)

5. Portal of entry

   a.

   b.

   c.

   d.

6. Susceptible host

   a. Once exposed becomes reservoir

   b. Contributing factors leading to infection of susceptible host

      1) Number of pathogens, duration of exposure to infectious agent

      2) Nonpathogenic bacteria becomes pathogenic--environment

      3) Emotional, physical and mental state of person

C. Types of Asepsis

   1.

   2.

D. Medical Asepsis

   1. Definition: Practices that help reduce the number and spread of microorganisms and consequently infection--clean technique

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2. Purpose: To prevent transmission of pathogens from one person or another by:
   - a. Confining pathogens to given area
   - b. Protect staff, visitors and other patients from the infection
   - c. Protect patient from reinfection and nosocomial infection
3. Medical aseptic techniques
   - a. ______________________________(Two-minute medical scrub) Handwashing is the single most effective way to control infection!!
     - 1) Components of handwashing procedure
       - a)
       - b)
       - c)
     - 2)
     - 3)
   - b. Masking
   - c. Gowning
   - d. Gloving
4. Medical aseptic procedures
   - a.
   - b.
   - c.

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d.

e.

f.

5. Isolation techniques

   a. Rationale: To break the chain of infection

   b. Estalishment of isolation unit - (Refer to M 65-340-013-2)

   c. Types of isolation

      1) Strict (complete)

         a) Purpose: To prevent transmission of a highly communicable disease and/or infection

         b) Diseases requiring strict isolation

            (1) Burns

            (2) Diptheria

            (3) Smallpox

            (4) Staphylococcal, streptococcal pneumonia

         c) Protective measures - (Refer to M 65-340-013-2)

      2) Protective (reverse)

         a) Purpose: To prevent contact between potentially pathogenic microorganisms and susceptible uninfected persons who have impaired resistance.

         b) Diseases requiring protective isolation

            (1) Transplant recipients

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(2) Certain cancer patients receiving immunosuppressive therapy such as Hodgkin's, leukemia, multiple myelomas.

c) Protective measures (Refer to M 65-340-013-2)

3) Respiratory

a) Purpose: To prevent spread of communicable diseases which are transmitted primarily by the airborne route

b) Diseases requiring respiratory isolation

(1) Chickenpox

(2) Measles (Rubeola), Rubella(German Measles)

(3) Mumps

(4) Meningitis

(5) Pertussis (whooping cough)

(6) Tuberculosis

c) Protective measures (Refer to M 65-340-013-2)

4) Wound and skin precautions

a) Purpose: To prevent transmission of pathogens via open draining wounds or breaks in skin

b) Infections requiring wound and skin precautions

(1) Staphylococcal wound and skin infection

(2) Streptococcal skin infection

(3) Gas gangrene

(4) Impetigo

(5) Extensive burns

c) Protective measures (Refer to M 65-340-013-2)

d) Wound infections

  (1) Becomes evident 2-7 days post surgery

  (2) Signs and symptoms

    (a)

    (b)

    (c)

    (d)

    (e)

    (f)

      1.

      2.

      3.

      4.

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      5.

      6.

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5) Enteric Precautions

a) Purpose: To prevent transmission of pathogens found in the infected patient's feces

b) Diseases requiring enteric precautions

(1) E-Coli gastroenteritis

(2) Salmonellosis (including typhoid fever)

(3) Cholera

(4) Viral hepatitis (infectious or serum)

c) Protective measures (Refer to M 65-340-013-2)

d. Maintenance of Isolation Unit - (Refer to M 65-340-013-3)

E. Surgical Asepsis

1. Definition: Practices that render and keep objects and areas free from all microorganisms - sterile technique

2. Purpose: To prevent the introduction of infection into the body

3. Definitions - Relating to surgical asepsis

a. Sterile: An item on which all microorganisms have been destroyed

b. Contaminated: To render something clean or unsterile.

4. Concepts of sterilty

a.

b.

c.

d.

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5. Guidelines and rules for sterility
   a. A tear or hole in the wrapper or package renders the contents unsterile
   b. Once wrapper becomes damp or wet, the contents are unsterile
   c. Handle only that part of wrapper which will be turned under or be in contact with the table or surface
   d. Do not reach, talk or breathe over sterile field
   e. Sterile field is considered sterile only above waist level
   f. All sterile objects must be handled with sterile instruments or sterile gloves
   g. Never turn your back on sterile field
   h. Never leave a sterile field unattended

6. Surgical aseptic techniques
   a.
   b.
   c.
   d.

7. Surgical aseptic procedures
   a.
   b.
   c.

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d.

e.

f.

g.

F. Sterilization and Disinfection

1. Disinfection (medical asepsis)

a. Terminology

1) Disinfection: A process by which pathogens but not necessarily spores are destroyed

2) Antiseptic: Prevents growth and activity of microorganisms, but does not necessarily destroy them

3) Bacteriostatic: A substance that prevents growth of microorganisms

4) Bacteriocide: A substance capable of destroying microorganisms, but not spores

5) Disinfectant: A substance used to destroy pathogens

6) Germicide: An agent that destroys germs

b. Disinfection products

1) Zephiran chloride

2) Povidone iodine (Betadine)

3) Wescodyne

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2. Sterilization (surgical)

   a. Terminology

      1) Spore: A cell produced by a microorganism which develops into an active microorganism under proper conditions.

      2) Sterilization: A process by which all microorganisms, including spores, all forms of bacteria, fungi, and viruses are destroyed.

   b. Methods

      1) Steam under pressure (autoclave)

      2) Dry heat

      3) Boiling

      4) Sunlight

      5) Use of chemicals

      6) Gas (ethylene oxide)

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
Enlisted Instructional Branch

Isolation Technique

A. Establishment of Isolation Unit

1. Private room or screened off area in close proximity to sink and stool.

2. In room equipment

   a. Thermometer and holder

   b. K-Y jelly

   c. B.P. cuff

   d. Stethoscope

   e. I.V. standard

   f. Container for contaminated needles

   g. Waste receptacle

   h. Linen hamper

   i. Linen bag

   j. Masks

   k. Gloves

   l. Paper towels

   m. Soap/disinfectant

   n. Personal hygiene articles

   o. Bedpan/urinal

   p. Emesis basin

   q. Kleenex and toilet tissue

   r. Dressing supplies

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*This mimeo supersedes M 65-340-013-2, 057

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- s. Supply paper bags
- t. Dinner tray and silver ware (optional)
- u. Other articles as necessary
- v. Plastic mattress cover

3. Outside the room equipment
    - a. Cabinet containing
        - 1) Gowns
        - 2) Masks
        - 3) Gloves
    - b. Wash basin
    - c. Germicidal solution
    - d. Paper towels
    - e. Waste receptacle
    - f. Spare linen
    - g. Spare paper bags

B. Types of Isolation

1. Strict (complete)
    - a. Purpose: To prevent transmission of a highly communicable disease and/or infection
    - b. Protective measures
        - 1) Visitors: Report to nurses' station before entering room
        - 2) Private room: Necessary; door must be kept closed
        - 3) Gowns: Must be worn by all persons entering room
        - 4) Masks: Must be worn by all persons entering room
        - 5) Hands: Must be washed on entering and leaving room

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6) Gloves: Must be worn by all persons entering room

7) Articles: Must be discarded or wrapped before being sent to central supply for disinfection or sterilization and labeled "contaminated" or "isolation"

2. Protective (Reverse)

a. Purpose: To prevent contact between potentially pathogenic microorganisms and susceptible uninfected persons who have seriously impaired resistance

b. Protective measures

1) Visitors: Report to nurses' station before entering room

2) Private room: Necessary; door must be kept closed

3) Gowns: Must be worn by all persons entering room

4) Masks: Must be worn by all persons entering room

5) Hands: Must be washed on entering and leaving room

6) Gloves: Must be worn by all persons entering room

7) Articles: See manual text

3. Respiratory Isolation

a. Purpose: To prevent spread of communicable diseases which are transmitted primarily by the airborne route

b. Protective measures

1) Visitors: Report to nurses' station before entering room

2) Private room: Necessary; door must be kept closed

3) Gowns: Not necessary

4) Masks: Must be worn by all persons entering room

5) Hands: Must be washed upon entering and leaving room

6) Gloves: Not necessary

7) Articles: Those contaminated with secretions must be disinfected

4. Wound and skin precautions

a. Purpose: To prevent transmission of pathogens via open draining wounds or breaks in skin

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b. Protective measures

1) Visitors: Report to nurses' station before entering room

2) Private room: Desirable

3) Gowns: Must be worn by all persons having direct contact with patient

4) Masks: Not necessary except during dressing change

5) Hands: Must be washed on entering and leaving room

6) Gloves: Must be worn by all persons having direct contact with infected area

7) Articles: Special precaution necessary for instruments, dressings and linen

5. Enteric Precautions

a. Purpose: To prevent transmission of pathogens found in the infected patient's feces

b. Protective measures

1) Visitors: Report to nurses' station before entering room

2) Private room: Necessary for children

3) Gowns: Must be worn by all persons having direct contact with patient

4) Masks: Not necessary

5) Hands: Must be washed on entering and leaving room

6) Gloves: Must be worn by all persons having direct contact with patient

7) Articles: Special precautions necessary for articles must be disinfected or discarded

C. Maintenance of Isolation Unit

1. Food

a. Write "Isolation" on diet sheet

b. Serve food on disposable dinnerware

c. Pour unconsumed liquids down sink or hopper

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- d. Place uneaten food and/or garbage in disposable bag and secure tightly
- e. Double bag waste, mark as "Isolation" and send to incinerator

2. Equipment
    - a. Any equipment necessary for patient care should be a disposable type if possible
    - b. Bath basin, emesis basin, thermometer, stethoscope and syhygmomanometer remain in room
    - c. Any equipment which must leave the room will be disinfected as soon as it leaves the room
        - 1) Any article which may be autoclaved is cleaned, double-bagged, marked "Isolation" and sent to CMS
        - 2) Articles which cannot be autoclaved will be disinfected before returning to general use

3. Linen
    - a. Place all patient's soiled linen in linen bag in room
    - b. Linen bag is removed from room by double-bag technique, marked "Isolation" and sent to laundry

4. Excreta
    - a. Nose and throat discharges
        - 1) Supply patient with paper bag, tissues and/or sputum cup
        - 2) Change bags and sputum cups at least q 8 hr
        - 3) Handle trash by double bag-technique and send for incineration
    - b. Urine and feces
        - 1) Use disposable urinals/bedpans if possible
        - 2) Dispose of urine and feces in commode or toilet in room
        - 3) If no toilet in room, carry covered bedpan or urinal to room and place in flusher. Flush first, steam two minutes and return to isolation unit.

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c. Drainage

1) Dressings: Handle soiled dressings as trash. When removing from unit, double bag trash, mark "Isolation" and send for incineration.

2) Liquids: Measure, record amount and discard as other liquid

5. Specimens (collection)

a. Obtain specimen, collect in disposable container, label container "Isolation" and place in disposable bag

b. Double bag specimen, mark second bag "Isolation" and send to lab as appropriate

D. Terminal Disinfection

1. Purpose: Eliminate and destroy pathogenic organisms in a patient's unit when the patient is discharged

2. Put on gown, gloves before cleaning unit

3. Strip unit/cubicle or room

   a. Place all linen directly into laundry bag/hamper, secure, mark "Isolation" and send to laundry

   b. Place blanket and pillow in separate laundry bag, mark contaminated" and send to laundry

   c. Place all disposable materials in bag and secure tightly, double bag and send to incinerator

   d. Wipe all auotclavable materials and equipment with cold germicidal solution place in proper bags marked "Isolation" and send to CMS for terminal sterilization

   e. Send all personal items home with patient

4. Wash entire bed, bedside locker, chair, overbed table and entire cubicle or room with a germicidal detergent solution, including walls up to six feet

5. Dispose of all needles, syringes and glass materials in approved ward SOP. Double bag when removing from unit

6. Make unoccupied bed and restock unit in readiness for new admission

7. Wash hands thoroughly

E. General Isolation Reminders

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1. Floors are contaminated. Anything dropped on the floor is contaminated and must be discarded or cleaned carefully before reuse
2. Keep dust down. Wet-mop often
3. Protect the patient from drafts
4. Establish contaminated and clean zones in isolation unit. Avoid mixing items considered contaminated areas.
5. Anything that is brought into the isolation area must not be removed except in proper containers, double bagged and labeled "Isolation"
6. Never rub your eyes or nose or put your hands near your mouth when you are taking care of a patient in an isolation unit
7. Never shake linen when you are removing it or placing it on the bed
8. Wash your hands often
9. Use clean squares of paper or tissue to touch contaminated articles
10. Paper towels or clean squares of paper provide a clean area on which to place articles within a unit
11. Keep water pitcher and glass in room. Ice and fresh water are brought to the door and transferred. Use same technique for food.
12. Faucets should be turned off and on with a paper towel
13. Nursing care and procedures carried out for isolated patients are the same as for any patient. The only difference is the utilization of additional safety precautions such as masking, gloving, gowning and disposal techniques
14. Inform the charge nurse of any skin wounds, sores, sore throat, colds or other evidence of your lowered resistance to infection or disease

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ENLISTED INSTRUCTIONAL BRANCH

M 65-340-013-3
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Handwashing Technique (Medical 2-Minute Scrub)

1. Approach sink.

2. Avoid touching sink with uniform.

3. Turn on water.

4. Adjust the temperature for individual comfort. Use warm water. Keep water running during procedure.

5. Holding hands down toward sink lower than elbows, wet hands thoroughly.

6. Apply soap or detergent thoroughly getting soap under nails and between fingers.

7. If necessary, use a brush to remove any substance offering particular resistance.

8. With rotating, frictional motion wash palm and back of each hand with rotary motions.

9. With fingers and thumbs interlaced, wash fingers and knuckles with 10 rotary motions. Clean fingernails as needed.

10. Rinse hands well with running water directed so it flows from wrists down to fingers

11. Moisten wrists and forearms and apply soap.

12. Wash one wrist and forearm for 10-12 seconds using firm rotary and friction action. Repeat action on other wrist and forearm.

13. Rinse arms and hands well with water draining from forearm to fingertips.

14. Repeat handwashing, repeating steps 6 thru 13 for a total of 1-2 minutes.

15. Dry hands well.

16. Turn off running water using paper towel.

17. Discard paper towel in wastebasket.

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*This mimeo supersedes M 65-340-013-3, 0854

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18. Apply hand lotion if necessary.

19. Wipe surrounding sink area discarding paper towel.

SPECIAL NOTES:

1. If hands have been in contact with a patient's saliva, with drainage from a wound, or with blood, repeat the entire washing procedure a second time. Continue washing for two-three minutes.

2. If using bar soap:

   a. Turn on water before you pick up bar of soap.

   b. Hold soap in hands while washing.

   c. If the bar of soap is accidently dropped on the floor while washing hands, pick it up, rinse thoroughly and begin at step 5 of handwashing procedure.

Recommended handwashing routine time schedule:

Two minutes (120 strokes) at beginning of each tour of duty; 30 seconds (30 strokes) between visits with non-grossly contaminated patients; 60 seconds (60 strokes) after caring for grossly contaminated patients.

Donning and Removing Sterile or Nonsterile-Gloves (Disposable)

A. Donning Gloves

1. Wash hands.
2. Obtain and unfold glove wrapper on a flat, clean surface.
3. Remove glove from wrapper:
   - a. Grasp folded edge of left cuff-tip with right hand.
   - b. Touch only inside of glove with clean hand.
4. Grasp folded edge of cuff-top of right glove with left hand (touch only inside of glove with clean hand).
5. Keeping fingers straight, pull glove on right hand.
6. With gloved right hand, slip fingers under folded cuff of left glove (sterile surface to sterile surface).
7. Pull glove on left hand

NOTE: Reverse last 5 steps if left-handed

8. If Using Gown:
   - a. Pull up over hand and cuff to gown.
   - b. Adjust gloves over gown cuff.
   - c. Avoid touching skin with gloved hand.
   - d. Recognize when contamination occurs and begin at beginning of procedure with new pair of gloves.
9. Recognize when contamination occurs and reinstitute sterility.
10. Adjust fingers of gloves when both gloves are in place similar to adjusting regular gloves for dress or cold weather.

B. Removing Gloves

NOTE: If gown is worn, gloves will be removed before gown is removed

1. With left hand, pull right glove off with cuff, avoiding touching skin with contaminated glove.

2. Dispose of glove in designated container
3. Place fingers of right hand inside cuff of left glove
4. Pull glove down over and off hand
5. Discard in designated container

NOTE: Reverse last 5 steps if left-handed

6. Wash hands

NOTE:

1. Wash hands before removing mask
2. Untie waist belt if wearing gown, then wash hands
3. Follow gown removal procedures
4. If nonsterile gloves are being used for clean procedure, keep gloves clean

Donning and Removing Isolation Gown

A. Donning Gown:

1. Remove watch and rings
2. Wash hands
3. Check to see if mask and gloves are required
4. Select a clean gown
5. Hold gown at neck opening and allow gown to unfold downward so that open part of gown faces away from you.
6. Holding the inside of the gown, slip one arm at a time into sleeves touching only inside of gown.
7. Work gown on carefully by grasping opposite sleeve with gown-covered hand. Work on other side of gown in same manner, working from inside of gown.
8. Avoid contamination of the hands
9. Adjust gown on shoulder by placing fingers inside neckband (at the back).
10. Tie neck tapes (ties) keeping hands clean and not touching hair.
11. Grasp edges of gown and pull to back
12. Overlap edges of gown in same direction to avoid contamination.
13. Roll the gown edges toward boy until gown fits snugly.
14. Grasp waist belt (ties), draw together at back and tie snugly.

B. Removing Gown:

1. Untie waist belt
2. Pull sleeves up above wrists
3. Wash hands
4. Untie neck tie avoiding contaminating hands by touching hair or outside of gown.

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5. Recognize when contamination occurs and rewash hands.

6. Remove first sleeve of gown by placing forefinger under cuff of sleeve, pulling sleeve down over hand without touching outside of gown.

7. Working with gown-covered hand remove other sleeve down over sleeve.

8. Slip out of gown

9. Roll gown inside out so outside portion of gown is inside. (roll gown into ball)

10. Avoid touching uniform to outside portion of gown

11. Discard in designated container

12. Wash and dry hands thoroughly

13. Turn off faucet with paper towel

14. Discard towel in designated place

15. Retrieve watch and rings

16. Check ward SOP for policies regarding removing gown that will be worn again.

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Donning and Removing Face Mask

A. Donning Mask:

1. Wash hands
2. Take mask from container
3. Place mask over nose and mouth, strings over ears
4. If wearing glasses, assure snug fit over nose and under bottom edge of glasses

   If Using Tie Mask:

   a. Unfold mask and place over nose and mouth

   b. Tie mask with top string at back of head making sure strings pass over ears

   c. Tie lower strings of mask at back of head at neckline

   d. Fasten ties securely

B. Removing Mask

1. Wash hands and remove mask
2. Discard mask in appropriate container
3. Proceed to untie waistband of gown and follow gown procedure
4. Wash hands

   If Using Tie Mask:

   a. Wash hands

   b. Remove mask by untying lower strings first, then upper strings

   c. Take care not to let strings or mask drop on gown

   d. Discard mask in appropriate container

   e. Follow removal of gown procedure

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SPECIAL NOTES:

1. A mask should never be reused. Start with clean mask each time.
2. Always discard mask when finished with procedure.
3. DO NOT slide mask off nose and mouth down around neck.
4. Change mask whenever it becomes moist (mask becomes moist in about 20 minutes).
5. Rewash hands before putting on another mask.

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Double Bagging Procedure

(Disposal waste materials, removal of linen)

1. Individual Inside Isolation Unit: (Contaminated)
   a. Empty wastebaskets
   b. Collect all used equipment, dressing, dishes, utensils etc., in designated disposable bags (waxed brown paper or plastic)
   c. Seal bags securely with strings, tape, per ward SOP
   d. Carefully place articles inside bag provided by second individual outside unit
   e. Wash hands
2. Individual Outside Isolation Unit: (Clean)
   a. Obtain large clean plastic bag
   b. Place hands under cuff of bag to avoid being touched by contaminated articles
   c. Carefully secure bag with tape, tie, etc., per ward SOP
   d. Label bag ISOLATION
   e. Take to proper area for disposal
   f. Wash hands

SPECIAL NOTES:

1. Linen may be removed in same manner.
2. Individual inside room collects linen in laundry hamper with heavy cloth bag in clean area of patient's room for collection of soiled linen.
3. Individual outside room provides large clean bag (prelabeled) and follow remainder of procedure for removal of waste materials from isolation unit.
4. Needles and syringes must be specially disposed of, check ward SOP
5. Aerosol can, e.g., deodorant, hair spray, shave cream, spray cologne must be wiped off with germicidal solution and sent home with patient. If empty, discard in trash according to ward SOP.

Terminal Cleaning/Disinfection (Isolation)

NOTE: Procedure requires two individuals

1. Wash hands
2. Gown (mask and glove as per ward SOP) according to gowning, masking or gloving procedures.
3. Individual in unit (contaminated) prepares utensils and supplies for removal from Isolation Unit:
    a. Prepare basin with cold germicidal solution (per ward SOP)
    b. Wipe off delicate instruments, e.g., sphygomanometers, otoscopes, scissors, thermometers and plastic articles with cold germicidal solution.
    c. Place items in bags and seal tightly.
    d. Collect all burnable or disposable supplies, e.g., paper, dressings and cotton.
    e. Place items in bags, sealing tops by folding down several times and secure tightly.
    f. Hand all sealed and wrapped contaminated articles to assistant (clean) outside room using double-bagging technique.
4. Assistant (Clean) individual:
    a. Close each large bag by rolling top edge downward, fasten securely.
    b. Label each bag with patient's name, room number and contents, each bag as per ward SOP.
    c. Label each bag "ISOLATION".
    d. Autoclave materials returned to CMS or as per ward SOP.
    e. Dispose of burnable items in trash collection are for transfer to incinerator or as per ward SOP.
    f. Return linen bag for further disinfection as per ward SOP.
5. Individual in unit:
    a. Wash linen hamper (if used) with cold germicidal solution.

b. When wiped clean, roll hamper to room door, "CLEAN" assistant takes to storage room.

c. Remove other used items.

d. Place all soiled linen in laundry bag.

e. Wipe entire bed (mattress, springs, footboard, headboard), chairs light fixtures, tables with germicidal solution.

f. Scrub floors as per ward SOP.

g. Wash hands.

h. Remove gown and place in linen hamper avoiding contamination.

i. Carefully close top of bag, fasten securely by pinning of taping.

j. With assistance of "CLEAN" person double-bag linen being careful to not contaminate uniform.

k. Wash hands.

l. Make unoccupied bed and set up unit ready for new admission.

m. Wash hands.

SPECIAL NOTES:

1. Check local SOP regarding housekeeping department duties (terminal disinfection of unit).

2. All linen, clean dressing, metal or glass articles except thermometers can be handled with this procedure. If ward uses disposable thermometers, dispose of them in trash, using special glass handling precautions as per ward SOP.

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Removal of Sutures

1. Check doctor's orders.
2. Assemble needed equipment:
    a. Sterile suture removal set, including scissors forceps and hemostat
    b. Skin antiseptic (Benzalkonium Chloride)
    c. Sterile dressing as needed
3. Wash hands thoroughly.
4. Explain procedure to patient.
5. Assure adequate lighting of suture line present.
6. Open sterile suture set using sterile technique, using sterile cotton ball, saturated with antiseptic and forceps.
7. Cleanse suture line, working outward for an area of 2 in. Use new cotton ball for each stroke.
8. Locate first suture line.
9. Using hemostat, grasp knot of first suture and elevate so portion below knot is clearly visible.
10. Using sterile scissors, cut one side of suture below the knot, close to skin. Do not cut knot.
11. Remove suture smoothly and in continuous motion.
12. Remove all sutures in order, from one end of incision to other to prevent loss of suture. Succeeding Interrupted Sutures - Removed by repeating above process for each suture. Succeeding Continuous Sutures - Removed in same manner except each portion to be cut is grasped by suture itself as there is no knot for each stitch.
13. Clean incision with a disinfectant.
14. Apply a sterile dressing as needed.

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15. Wash hands.

16. Chart procedure on Nursing Notes and observe doctor's order.

NOTE:

1. Observe wound for approximation of edges, for signs of inflammation and amount of drainage.

2. Observe sutures for tissue reaction, for continuity of suture line and possibility of embedded sutures.

*M 65-340-013-4
018

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
Enlisted Instructional Branch

Guidelines for Sterility

Packages:

1. When wrapped and sterilized, the inside of the package and its contents are sterile.
2. Sterile packages dropped on the floor are unsterile.
3. A tear or hole in the wrapper or package renders the contents unsterile.
4. Once the wrapper becomes damp or wet, the contents are unsterile.
5. Equipment in sterile wrappers is opened by pulling the wrap away from you first.
6. Handle only that part of the wrapper which will be turned under or be in contact with the table or surface.

Sterile field:

1. Instruments and supplies are placed upon a sterile tray, towel, barrier, or wrapper.
2. The 1-inch border around the field is CONSIDERED unsterile if the edges are in contact with unsterile surfaces.
3. Never turn your back on a sterile field.
4. Do not reach, talk, or breathe over a sterile field.
5. The field must be above waist level. Everything below waist level is unsterile.
6. Never leave a sterile field unattended.

Solutions:

1. Before pouring sterile solutions, make certain that the bottle is clean.
2. When pouring solutions into a container on the field, be careful not to drip solution onto the field.

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*This mimeo supersedes M 65-340-013-4, 057

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Sterile containers:

1. Stopper on lids which are used to cover sterile containers are placed upside down on a table to prevent contamination of the inside of the lid.
2. Sterile gloves or instruments must be used to remove the contents of a sterile container.

Sterile gloves and instruments:

1. Skin cannot be made sterile - only clean
2. All sterile objects must be handled with sterile instruments or or sterile gloves.

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ACADEMY OF HEALTH SCIENCES, USA M 65-340-014-1
NURSING SCIENCE DIVISION 028
ENLISTED INSTRUCTIONAL BRANCH

Pre & Postoperative Care of the Surgical Patient

Objectives:

1. Given a list, select the signs and symptoms of, and nursing care to be given a patient experiencing the post-operative complications of pulmonary embolus, hemorrhage, hypovolemic shock and hypoxia as discussed in class.

2. Given a diet, select the purpose of antiembolism stockings, water seal drainage, cough, turn and deep breathe, blow bottles, warm moist soaks and wet to dry dressings as stated in class.

3. Given a list, select those safety precautions to be observed when working with water seal drainage as discussed in class.

4. Given a list, select the precautions, indications for and safety factors to be observed during tracheal suctioning as stated in class.

5. Given the proper equipment and a patient, instruct and assist a patient to (CTDB) and use blow bottles as demonstrated in class.

6. Given a patient and the proper equipment, apply antiembolism stockings as demonstrated in class.

7. Given the proper equipment and after practice, perform tracheal suctioning, utilizing the principles of sterility, as demonstrated in class.

8. Given the proper equipment, prepare a surgical bed as demonstrated in class.

9. Given the proper equipment and after practice, assemble and perform care of a water sealed drainage system to include safety precautions as demonstrated in class.

This mimeo supersedes M 65-340-014-1, 057

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10. Given a patient, and the proper equipment, apply warm soaks to a patient as demonstrated in class.

*11. Given a patient and the proper equipment, collect a sputum specimen by suctioning as demonstrated in class.

*12. Given a patient, and the proper equipment, perform pre-operative nursing care in accordance with the surgical checklist, DA Form 3629.

*13. Given a patient, and the proper equipment, and after practice, admit a surgical patient to the ward from recovery room in accordance with the procedures discussed in class.

* Terminal Objectives

NOTES

A. Surgical Checklist

1. Purpose:

2.

3.

4. Use

a.

b.

c.

(1)

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(2)

B. Patient Teaching Preoperatively

1. Blow Bottles

a. Purpose:

b. Procedure

(1) Wash hands

(2) Explain procedure to patient

(3) Instruct patient to take deep breath

(4) Instruct patient to blow water from one bottle to the other, using deep, even exhalation.

(5) Instruct patient to cough and deep breathe following blow bottles.

(6) Instruct patient to use blow bottles frequently.

2. Cough, turn and deep breathe

a. Purpose:

b. Procedure

(1) Wash hands

(2) Gather equipment

(a) Kleenex

(b) Emesis basin

(3) Explain procedure

(4) Position for comfort

(5) Instruct patient to take a deep breath

(6) Instruct patient to breathe out slowly through nose

(7) Repeat steps 5 & 6

(8) Instruct patient to cough on exhalation

(9) Instruct patient to spit in emesis basin

(10) Offer kleenex

(11) Repeat procedure several times

(12) Teach preoperatively

C. Postoperative Complications

1. Pulmonary Embolus

a. Definition:

b. Symptoms

(1)

(2)

(3)

(4)

(5)

(6)

c. Nursing Care Procedures

(1)

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(2)

(3)

(4)

d. Preventive Measures

(1)

(2)

(3)

(4)

2. Hemorrhage

a. Definition:

b. Symptoms

(1)

(2)

(3)

(4)

(5)

c. Nursing Care

(1)

(2)

(3)

(4)

(5)

3. Hypovolemic Shock

873

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a. Definitions:

(1) Hypovolemic:

(2) Hypovolemic Shock:

b. Symptoms:

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

c. Nursing care procedures

(1)

(2)

(3)

(4)

(5)

4. Hypoxia

a. Definition:

b. Cause:

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c. Symptoms

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

d. Nursing care procedures

(1)

(a)

(b)

(2)

(3)

D. Treatments Utilized Postoperatively

1. Antiembolism Stockings

a. Purpose:

b.

c. Procedure

(1) Explain procedure to patient

(2) Wash hands

(3) Roll stockings down over hand

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(4) Raise patient's leg so that stocking is applied with foot above level of the heart

(5) Pull stockings even, and smoothly over leg.

(6) After both stockings are applied, elevate legs slightly (15-20°)

2. Water Seal Drainage

a. Purpose:

b. Action:

c. Procedure for gravity drainage without suction

(1) Gather equipment

(a) Sterile drainage bottle set

(b) Sterile drainage tube, with connector

(c) Kelly clamps (2) rubbershod

(d) Adhesive tape

(e) Drainage bottle floor holder

(f) Sterile water

(g) Marking pen

(h) Safety pins and rubber bands

(2) Set up bottles using sterile technique

(a) Connect drainage tube to glass tubing, first bottle (empty bottle)

(b) Fill second bottle to water line with sterile water-mark level

(c) Connect tubing from first bottle to glass tubing, second bottle (glass tubing under water)

(d) Airvent second bottle

(e) Place bottles in holder and tape to holder.

(f) Tape holder to floor

(g) Tape all connections to include stoppers

(h) Mark fluid level-kneel to do this. DO NO LIFT bottle unnecessarily

(i) Connect drainage tubing to chest tube and tape connections.

(j) Have nurse check setup

(k) May attach tubing to sheet using rubber bands. If this is done insure tubing is placed over side rails.

d. Closed chest drainage to emerson suction

(1) Gather equipment

(a) Sterile drainage bottle set

(b) Sterile drainage tubing, with connector

(c) Kelly clamps (2) rubbershod

(d) Adhesive tape

(e) Sterile water

(f) Marking pen

(g) Safety pins and rubber bands

(h) Emerson suction machine

(2) Set up bottles for suction using sterile technique.

(a) Fill bottle to water line using sterile water-mark water level.

(b) Connect tubing to glass tube first bottle, glass tubing extends under water

(c) Connect first and second bottle

(d) Second bottle connected to suction

(e) Tape all connections to include stoppers

(f) Attach chest tube to drainage tubing

(g) Have nurse check set up

(h) Turn machine on to suction as prescribed by doctor

(i) May attach tubing to sheet using rubber bands. If this is done, insure tubing is placed over side rails.

e. Safety precautions when working with water sealed drainage

(1)

(2)

(3)

(4)

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(5)

(6)

(7)

(8)

3. Warm Moist Soaks

a. Purpose:

b. Procedure - Intermittent Soaks

(1) Explain procedure to patient

(2) Gather Equipment

(a) Basin

(b) 4x8's

(c) Saline

(d) Chux

(3) Wash hands

(4) Warm saline

(5) Pour saline in basin

(6) Place chux under affected area

(7) Moisten 4x8's with saline

(8) Place 4x8's on affected area

(9) Leave on prescribed length of time

(10) Remove

(11) Clean area and wash hands

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c. Continuous soaks

(1) Explain precedure to patient

(2) Gather equipment - Same as intermittent

(3) Wash hands

(4) Pour saline in basin

(5) Place chux under affected area

(6) Wet 4x8's and place on affected area

(7) Place K-pad (wrapped with chux) over area

(8) Secure K-pad by taping chux

(9) Clean area and wash hands

(10) When 4x8's dry, replace in same manner

4. Wet to Dry Dressings

a. Purpose:

b. Procedure

(1) Explain procedure to patient

(2) Gather equipment and wash hands

(3) Use sterile technique

(4) Moisten gauze

(5) Apply to wound

(6) Clean area and wash hands

(7) Remove gauze when dry

(8) Replace in same manner if ordered

E. Precautions and Indications for Tracheal Sunctioning

1. Tracheostemy: Creation of an opening into the trachea through the neck usually for the insertion of a cannula to facilitate breathing.

2.

3. Precautions (Safety Factors)

   a.

   b.

   c.

   d.

   e.

   f.

   g.

   h.

   i.

4. Indications for Suctioning

   a.

      (1)

      (2)

   b.

   c.

d.

e.

F. Tracheal Suctioning Procedure

1. Wash hands

2. Explain procedure

3. Gather equipment (usually at bedside)

4. Using aseptic technique, prepare suction catheter

    a. Open wrapper, exposing sterile whistle stop

    b. Place wrapper under arm, opposite the dominant hand

5. Using aseptic technique, don glove

6. With the gloved hand remove the catheter by grasping the exposed whistle stop. (Do not allow catheter to touch anything).

7. Using a septic technique connect the whistle tip to the suction tube

8. With ungloved hand, turn on machine and test patency of catheter by aspirating water

9. Using aseptic technique, with the finger off the whistle stop, but bending catheter to clamp tube off, insert the catheter approximately 5 inches into trachea

10. Unbend catheter, close whistle stop and gently rotate catheter as you pull it out of the trachea , taking no more than 10 seconds

11. Clear catheter and tubing by aspirating water through tube

12. Repeat procedure until trachea is clear

13. Wash hands

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G. Collection of Sputum Specimen by Suctioning

1. Explain procedure to patient
2. Wash hands
3. Gather equipment
4. Use aseptic technique
5. Connect mucous trap to suction tube
6. Pinch off suction tube and insert catheter into tracheostomy cannula
7. Release tube and gently rotate catheter as you pull it out of the trachea, taking no more than 10 seconds
8. Disconnect mucous trap
9. Label specimen and send to lab
10. Clean area and wash hands

H. Admission of Surgical Patient to Ward from Recovery Room

1. Report on patient will be given by Recovery Room
2. Gather equipment
    a. V.S. equipment
    b. Emesis basin
    c. Sheets
    d. I.V. Pole
    e. Any other equipment deemed necessary
3. Make Surgical Bed
    a. Apply bottom sheet in same manner as an unoccupied bed

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b. Fold top sheet in half width-wise

c. Place to side of bed

d. Fold diagonally in triangular shape with point to center of bed

e. Fan fold sheet to side of bed

4.

5.

6.

a.

b.

7.

8.

a.

b.

9.

a.

b.

10.

11.

12.

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13.

14.

a.

b.

c.

d.

e.

f.

g.

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

*M 65-340-015-1
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Care of the Immobilized Patient

Objectives:

1. Given a list, select the signs/symptoms of pressure on the skin due to immobilization of the body or a body part, as stated in class.
2. Given a list, select the signs/symptoms of impaired circulation, as stated in class.
3. Given a list, select the definition of skeletal, skin and countertraction, as presented in class.
4. Given the proper equipment and after practice, apply Buck's traction and perform traction care to include positioning, maintaining weights, countertraction and hygiene as demonstrated in class.
5. Given the proper equipment and after practice, rotate a patient on a Foster frame, Stryker frame and Circo-Lectric bed as demonstrated in class.
6. Given the proper equipment and after practice, prepare a patient for crutch ambulation including the crutches and instruction in the two-point, three-point, four-point, swing-through and swing-to-gait, as demonstrated in class.
7. Given the proper equipment, remove a cast as demonstrated in class.
8. Given a list, select the appropriate nursing care of the immobilized patient as discussed in class.
9. Given a patient and after practice, locate the pedal pulse on the affected foot as demonstrated in class.
10. Given the proper equipment and after practice, demonstrate care of the patient with a cast to include care of the wet cast, dry cast, personal hygiene, skin care and exercises as discussed in class.

NOTES

A. Immobilized Patients with Traction Devices and Casts

1. Definitions

a. Traction:

b. Skin traction:

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*This mimeo supersedes M 65-340-015-1, 057

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c. Skeletal traction:

d. Countertraction:

1. Pull exerted against a fixed point (pelvis when leg is in a Thomas leg splint).

2. Elevate the foot of the bed under the part being placed in traction (when Buck's traction is applied to lower extremity)

2. Purpose of traction

a. To correct and maintain skeletal alignment

b. To reduce pressure on joint surfaces (arthritis)

c. To rest muscles

d. To inhibit or reduce swelling

e. To elevate limb for better drainage

3. Care of the patient in traction

a.

b.

c.

1)

2)

3)

4)

d. Maintain countertraction

886

e. Hygiene

1)

2)

a)

b)

3)

4)

5)

a)

b)

4. Buck's Traction: A skin traction applied to an extremity using one pulley.

a.

b.

c.

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d.

887

e.

f.

g.

h.

5. Care of the patient with a cast: A cast is used to support and immobilize a body part.

    a. Wet cast

        1) Grayish white, dull sound when thumped

        2) Lift with palm of hands

        3) Let dry about 12 hours turning every 2 hours

        4) Observe for signs and symptoms of pressure

        5) Observe for signs and symptoms of impaired circulation

    b. Dry cast

        1)

        2)

            a)

            b)

        3)

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4)

c. Removing a cast

1)

2)

a)

b)

c)

d)

3)

[illegible]

b)

4)

5)

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6)

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7)

8)

d. Crutch ambulation

1) Crutch measurement

a) Length-height of patient minus 16"

b) Crutches should not touch axilla-about 2" under axilla

c) Hand pieces-elbows bent 20-30° degrees when gripping crutches

2)

a)

b)

c)

d)

e)

3)

a)

1)

2)

3)

b)

1)

2)

c)

1)

2)

d)

e)

B. Other Conditions Causing or Requiring Immobilization

1. Examples of neurological disorders: those affecting the nervous system

a.

b.

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c.

d.

2. Examples of disorders resulting from trauma: those resulting from accidental injury to the brain or spinal cord

   a.

   b.

   c.

   d.

3. Examples of diseases of pathogenic origin: those stemming from infestation of microorganisms

   a. Bacterial (meningitis)

   b. Viral (encephalitis)

4. Examples of miscellaneous conditions

   a.

   b.

   c.

   d.

   e.

C. Specialized equipment used for immobilized patients (Foster frame, Stryker frame and Circo-Lectric bed)

1.

2.

   a.

   b.

   c.

   d.

3. Explain procedure and direction of turn to patient prior to turning

4.

   a.

   b.

   c.

   d.

   e.

5. Traction may be applied to frame if needed.

D. Complications of Immobilization

1. Increased pressure (May cause decubitus ulcers or nerve damage)

   a. Signs/symptoms

      1)

      2)

      3)

   b.

      1)

      2)

      3)

      4)

2. Impaired circulation (May cause decubitus ulcers, nerve damage, respiratory problems)

   a. Signs/symptoms

      1)

      2)

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3)

4)

5)

6)

b. Nursing care procedures

1)

2)

3)

3. Other observations to be noted

a.

b.

c.

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Simple Disorders of the Skin

Objectives:

1. Given a diagram and a list of terms, select the structure of the skin as stated in class.
2. Given a list select the four (4) functions of the skin as stated in class.
3. Given a list select the cause, definition, signs and symptoms, medical and nursing care and treatment of acne vulgaris, urticaria, poison ivy, impetigo, carbuncle-furuncle, athlete's foot, herpes simplex, warts, immersion foot, and frostbite as stated in class.

NOTES

A. Structures of the Skin

1. Sweat duct: Duct that leads from the sweat glands to the surface of the skin.
2. Hair follicle: Lubricates the hair and skin surfaces.
3. Epidermis: Outer layer of skin.
4. Blood Vessels: Supply nutrients to the skin.
5. Dermis: True skin layer which contains nerves, blood vessels, glands, hair roots and nail roots.
6. Sebaceous gland: Secretes an oil called sebum.
7. Subcutaneous fatty tissue: Rounds out body surface and cushions bony parts.
8. Organ of touch: Transmits sensations of touch, heat, cold and pain.

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*This mimeo supersedes M 65-340-016-1, 057

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B. Functions of the Skin

1.

2.

3.

4.

C. Sebaceous Gland Disorders: Acne Vulgaris

1. Definition: A chronic disorder of the sebaceous gland; mainly affecting adolescents.

2. Causes

   a. Increased activity of sebaceous gland

   b. Increased size of sebaceous gland

3. Signs and symptoms

   a. Comedones (blackheads) on chin, nose and forehead

   b. Papules and small pustules on chin, nose and forehead

4. Medical care and treatment

   a.

   b.

   c.

   d.

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D. Allergic Skin Reactions (Contact Dermatitis)

1. Urticaria (Hives)

a. **Definition:** An eruption of severely itching wheals; usually of systemic origin.

b. Causes

- 1) Food sensitivity
- 2) Drug sensitivity
- 3) Inhalant allergy
- 4) Infections
- 5) Chemicals
- 6) Bites and stings

c. Signs and symptoms

- 1) Spontaneous development of wheals
- 2) Increased fever
- 3) Circumscribed lesions and areas of edema
- 4) Lesions are usually pink or skin-colored
- 5) Usually begin on trunk

d. Medical treatment and nursing care

1)

2)

3)

4)

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2. Poison Ivy (Dermatitis Venenata)

   a. Definition: An inflammatory skin reaction caused by contact with sap from poison ivy plant.

   b. Causes

      1) Vegetable irritant (poison ivy) direct contact

      2) Secondary contact

   c. Signs and symptoms

      1) Skin eruption

      2) Swelling and edema of certain areas

      3) Intense itching

   d. Medical care and treatment

      1)

      2)

         a)

         b)

E. Infectious Dermatitis

1. Impetigo

   a. Definition: A scabby purulent eruption in which the primary lesion ruptures and becomes covered with a thick yellowish crust.

   b. Causes

      1) Streptococcal infection

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2) Staphylococcal infection

c. Signs and symptoms

1) Redness

2) Vesicles break open and leave sticky, yellow exudate

3) Exudate crusts

d. Medical treatment and nursing care

1)

2)

3)

2. Furuncle and carbuncle

a. Definition: A boil (furuncle) or several boils (carbuncle) in a cluster.

b. Causes

1) Acute infection of one or more hair follicles

2) Usually a staphylococcal infection

c. Signs and symptoms

1) Whitish, tender, painful spot in middle of a reddened area

2) Fever (systemic or local)

3) Malaise

4) Painful group of furuncles or carbuncles

d. Medical treatment and nursing care

1)

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2)

3)

4)

5)

3. Athlete's foot (Tinea pedis)
    a. Definition: Fungal infection of the feet
    b. Cause: Fungus
    c. Signs and symptoms
        1) Burning and itching on the soles of feet and between toes
        2) Watery blisters
        3) Moist weepy lesions
    d. Medical treatment and nursing care
        1)
        2)
        3)
        4)
4. Herpes Simplex (fever blister, cold sore)
    a. Definition: An acute infectious viral disease
    b. Cause: Virus

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c. Signs and symptoms

1) Small blisters on lips or in mouth (canker sore)

2) Painful lesions with burning sensation

3) Vesicles may have exudate which later crusts

d. Medical treatment and nursing care

1)

2)

3)

5. Warts

a. Definition: Small, usually hard, benign tumorous growth on the skin.

b. Cause: Virus

c. Signs and symptoms

1)

2)

3)

d. Medical treatment and nursing care

1)

2)

3)

4)

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F. Thermal Injuries

1. Frostbite

a. Definition: the freezing of tissues by exposure to extreme cold without sufficient protection of the exposed area.

b. Causes

1) Tissue freezing

2) Blood supply stopped

c. Signs and symptoms

1)

2)

3)

d. Medical treatment and nursing care

1) Warm gradually

2) DO NOT RUB

3) Rest

4) Elevation of affected part

5) Antibiotic therapy

2. Immersion foot

a. Definition: Skin condition confined to soles of the feet where skin areas becomes white and wrinkled.

b. Cause: Prolonged immersion in warm water; more than 48 hours.

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c. Signs and symptoms

1)

2)

3)

4)

5)

d. Medical treatment and nursing care

1) Keep feet dry

2) Rest

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Definition of Terms

PRIMARY LESIONS:

1. Patch: Large, macule.
2. Papule: Discrete solid elevations, 1 cm or less.
3. Plaque: Coalesced papules.
4. Nodule: A large papule.
5. Wheal: Edematous, transitory elevation, a hive.
6. Tumor: Larger than a nodule.
7. Macule: Variable sized, non-elevated, discrete, discoloration.
8. Vesicle: Discrete, small, elevation of epidermis, containing serum, less than 1 cm.
9. Bulla: Large vesicle.
10. Pustule: A vesicle with many PMN's, usually white or yellowish.
11. Petechiae: Hemorrhages less than 3mm in diameter.
12. Purpura: Petechiae and ecchymoses

SECONDARY LESIONS:

1. Scales: Laminated masses of exfoliating epidermis.
2. Crusts: Dried scrum or blood
3. Excoriations:
4. Fissures: Linear breaks in the skin.
5. Ulcers: Localized loss of tissue.
6. Scars:
7. Erosion: Superficial ulcer.

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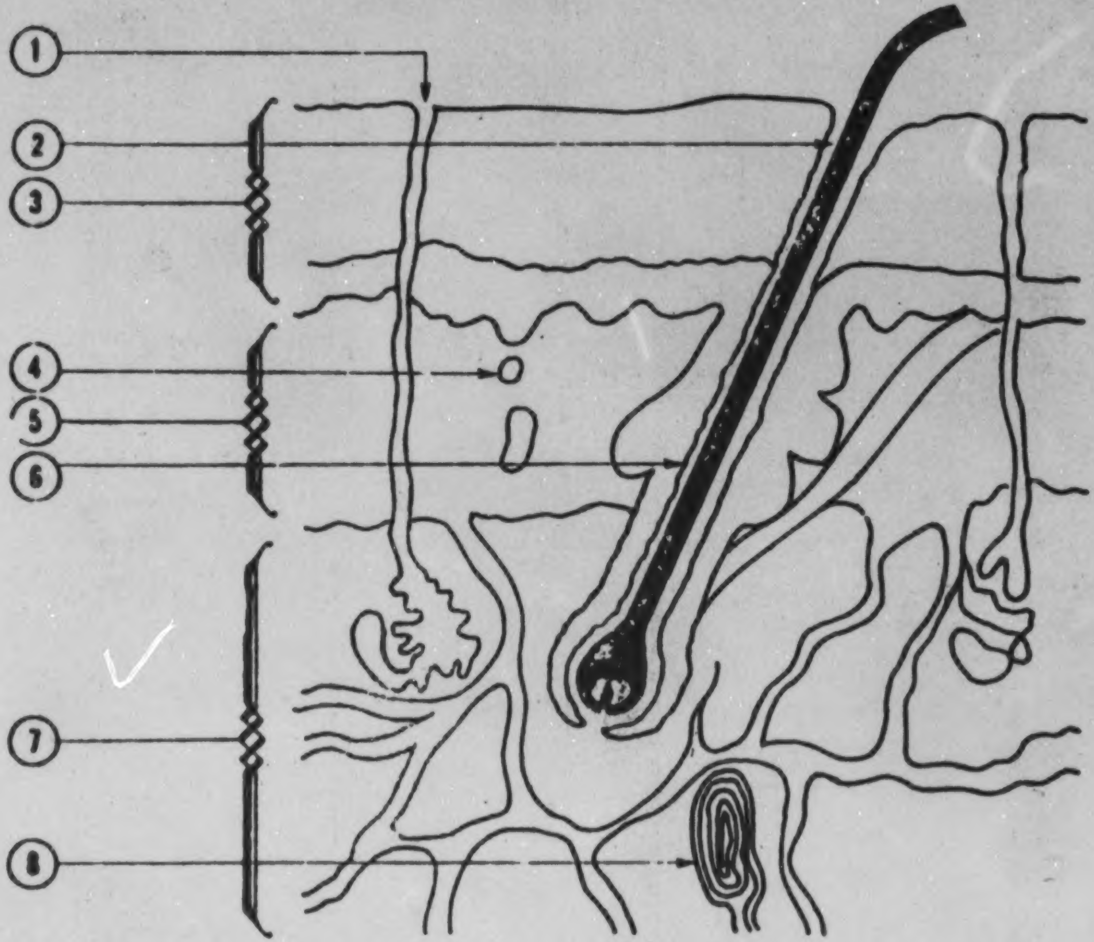
A CUT AWAY DRAWING OF THE INTEGUMENTARY SYSTEM SKIN



1. SWEAT DUCT
2. HAIR FOLLICLE
3. EPIDERMIS
4. BLOOD VESSEL (CROSS-SECTION)
5. DERMIS
6. SEBACEOUS GLANDS
7. SUBCUTANEOUS FATTY TISSUE
8. ORGAN OF TOUCH

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
Enlisted Instructional Branch

Common Nursing Procedures of the Gastrointestinal Tract

OBJECTIVES:

1. Given a diagram, match the parts and functions of the GI tract as shown in class.

2. Given a list, select the defintion for diagnostic procedures as stated in class.

3. From a given list, select the steps to be taken in preparing a patient for the following diagnostic procedures: Upper GI Series (UGI), Barium Enema (BE). Gallbladder Series (GB), as stated in class.

*4. Given the proper equipment and a patient, insert a nasogastric tube as demonstrated in class.

*5. Given a patient with a nasogastric tube properly placed, the proper equipment and after practice, administer a tube feeding (gavage), and perform irrigation and connection to gastric suction (Gomco or Emerson) as demonstrated in class.

6. Given a patient situation, select nursing care for a patient with a nasogastric tube as stated in class.

7. Given a list, select in sequential order the steps to be taken for the insertion of a nasogastric tube as given in class.

8. Given a list, select the two (2) classifications of enemas as given in class.

9. Given a list of definitions, select the definition for a cleansing enema and a retention enema as stated in class.

10. Given a list, select the sequential steps and safety precautions to be taken when administering a cleansing enema and a retention enema as given in class.

*11. Given a patient, the proper equipment and after practice administer a cleansing enema and/or retention enema as demonstrated in class.

12. Given a list, select the definition of:

    a. Pilonidal cyst

    b. Hemorrhoid

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*This mimeo supersedes M 65-340-017-1, 057, M 65-340-019-1,057

c. Intestinal obstruction

d. Colostomy

e. Fissure in ano

f. Appendicitis, as stated in class

13. Given a patient situation, select nursing care measures to be taken in caring for a patient with a pilonidal cyst, hemorrhoids, and/or colostomy as discussed in class.

14. Given a list, select the three (3) classifications of intestinal obstructions as stated in class.

15. Given a list, select the predominate signs and symptoms of an intestinal obstruction as discussed in class.

16. Given a list of actions, select the actions to be taken in the management of a patient with an intestinal obstruction as discussed in class.

*Terminal Objectives

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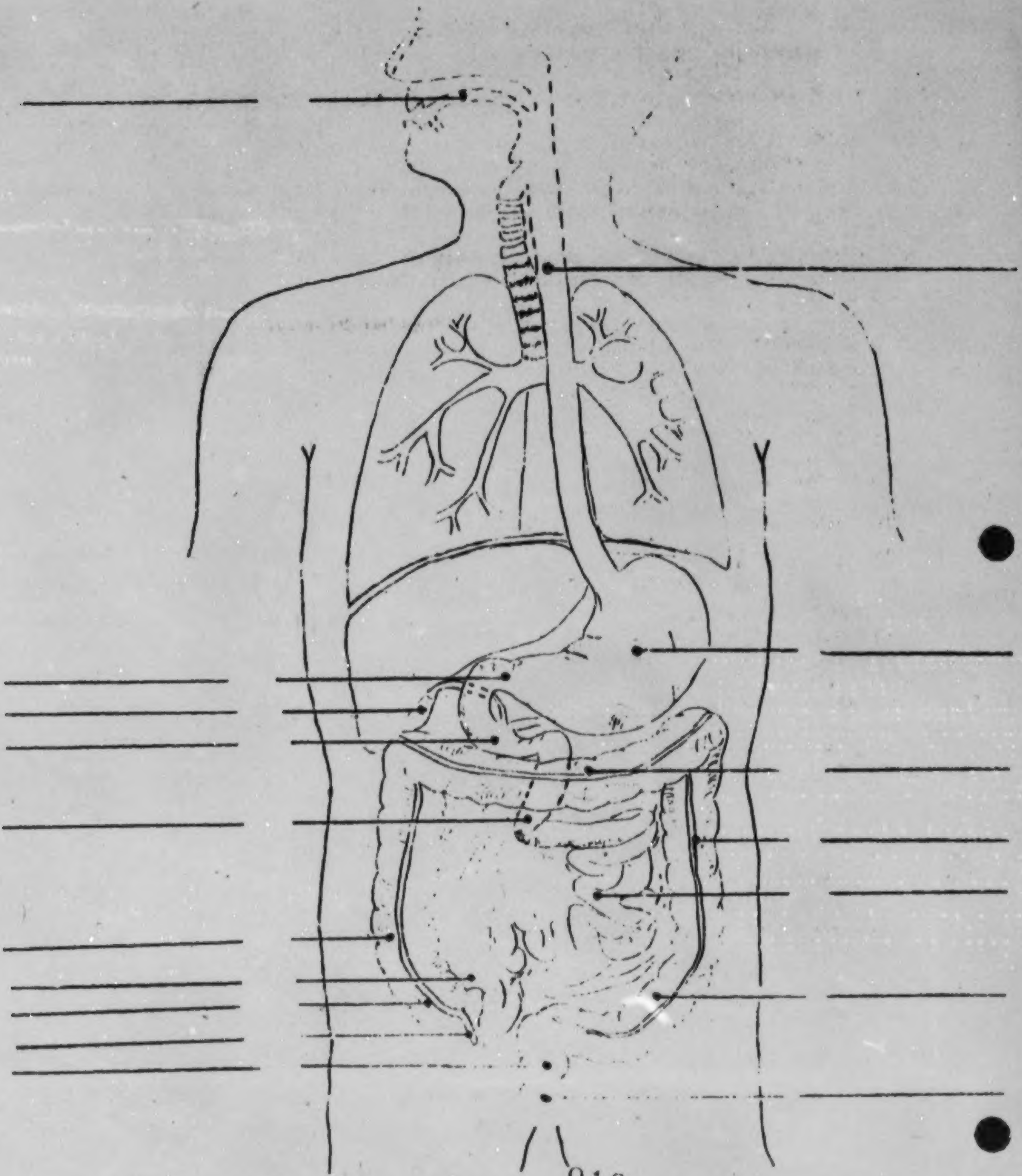
The Gastrointestinal Tract



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NOTES

A. Parts and Functions of the GI Tract

1. Oral Cavity: Responsible for chewing and breaking down of food.

2. Esophagus: A muscular tube approximately 9" long to carry food from the pharynx to the stomach.

3. Stomach: A collapsable pouch that acts as a temporary receptacle for food where the bolus (mass of food) mixes with digestive enzymes to create chyme (partially digested food).

4. Pyloric Sphincter: Allows the chyme to pass from the stomach to the duodenum at a regulated rate.

5. Gallbladder: A reservoir for bile which empties into the duodenum.

6 Small Intestines: Approximately 30 feet long, aids in completing the digestion of food by the excretion of hormones and enzymes. The end product of digested food is absorbed here.

   Composed of three parts;

   a. Duodenum = 10 Feet

   b. Jejunum = 8 Feet

   c. Ileum = 12 Feet

7. Appendix: Located at the end of the cecum, and as yet no function has been determined.

8. Colon: Responsible for absorption of water and elimination of the wastes of digestion.

   Composed of seven parts:

   a. Cecum = dehydration begins here

   b. Ascending colon = liquid stool

   c. Transverse colon = mushy stool

   d. Descending colon = semi-formed stool

   e. Sigmoid colon = formed stool

   f. Rectum = storage

   g. Anal sphincter (anus) = control

B. Definition: ____. A method of examination used in distinguishing one disease from another or in discovering a cause and/or cure for a particular sign or symptom.

C. Types of Diagnostic Procedures

1. Upper GI Series (UGI)

   a. Definition: Oral introduction of a barium contrast media to visualize abnormalities of the upper gastrointestinal tract.

   b. Reasons for use: To diagnose diseases of the esophagus, stomach or upper portion of the small intestine.

   c. Preparation of patient

      1)

      2)

      3)

      4)

   d. Following procedure

      1)

      2)

2. Barium Enema (BE)

   a. Definition: Rectal instillation of a barium contrast media to view the lower gastrointestinal tract or bowel for abnormalities.

   b. Reasons for use: To check for diseases of the lower GI tract, intestinal obstruction or cancer.

   c. Preparation of patient

1)

2)

3)

4)

5)

d. Following procedure

1)

2)

3. Gallbladder Series (GB)

a. Definition: The oral administration of a radiopague dye to visualize the gallbladder.

b. Reasons for use: For diagnosis of gallstones or gallbladder disease.

c. Preparation of patient

1)

2)

3)

4)

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5)

6)

7)

8)

d. Following procedure

1)

2)

D. Nasogastric Tube

1. Reasons for use

a. Decompression, to remove fluid and gas from the gastrointestinal tract.

b. Diagnostic studies

c. To treat patients with intestinal obstruction or bleeding within the upper gastrointestinal tract.

d. To administer medications and feedings (gavage) directly into the gastrointestinal tract.

2. Nursing care

a.

b.

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c.

d.

e.

f.

1)

2)

3. Steps for insertion
   a. Check physician's order
   b. Gather equipment
   c. Explain procedure to patient
   d. Wash hands
   e. Establish sign for difficulty
   f. Measure and lubricate tube 6-8"
   g. Hyperextend neck
   h. Insert tube, upon reaching throat have patient raise head to normal position and allow to rest.
   i. Continue insertion as patient sips water
   j. Determine position
      1) Insert end of tube in water, if bubbles appear you are in the lung
      2) Using a syringe insert air into the stomach as you listen with a stethescope.
      3) Aspirate stomach content
   k. Secure

E. Classifications of enemas

1. ______________________________: The injection of fluid into the rectum to stimulate defecation.

2. ______________________________: The injection of a small amount of a prescribed solution, at a very slow rate, to avoid stimulation, into the rectum for absorption and temporary retention.

F. Administration and Safety Precautions of a Cleansing Enema

1. Check physician's order
2. Assemble equipment and take to patients bedside
3. Wash hands
4. Instruct on procedure
5. Check temperature of solution, approximately ________at ____________.
6. Expel air from tubing, clamp when solution flow reaches end of tube.
7. Lubricate end of rectal tube with water soluble lubricant and cover tip with gauze.
8. Position patient, "______________________________________.______".
9. Hang enema bag " ______________________________________ ______".
10. Place chux under patient.
11. Expose buttock area.
12. With left hand separate the buttocks to expose the anus.
13. Insert tube gently into anus approximately " _______________" hold in place, release clamp and allow fluid to infuse slowly. If the patient complains of pain or cramping, clamp tube and wait until discomfort subsides. Encourage the patient to relax.
14. When solution is infused, clamp tube and remove, cover soiled end of tube with tissue or gauze.
15. Assist patient to bathroom or onto bedpan.
16. Clean and dispose of equipment.
17. Wash hands
18. Observe and record results, amount, color and consistency in nursing notes.

G. Administration and Safety Precautions for a Retention Enema

1. Check physician's order
2. Assemble equipment
3. Wash hands
4. Instruct on procedure

5. Check temperature of oil against wrist "______________________".

6. Expel air from tube.

7. Lubricate tip of tube with water soluble lubricant and cover

8. Position patient in "____________________________".

9. Place chux under patient.

10. Expose buttock area.

11. With left hand separate buttock area to expose anus.

12. Gently insert tube into anus about "_______________".

13. Infuse oil very slowly.

14. Withdraw tube on completion and cover.

15. Encourage the patient to relax and breathe slowly; apply gentle pressure to the anus.

16. Position patient for comfort, keep patient on left side, instruct patient to remain in this position for one hour.

17. Wash hands

18. Record time, type and amount of oil given in the nursing notes.

19. Clean equipment if not disposable.

20. Check patient in one hour to see amount of oil expelled and record in nursing notes.

H. Pilondal Cyst

1. Definition: A cyst located in coccygeal region often containing hair.

2. Nursing care measures.

    a.

    b.

        1)

        2)

        3)

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c.

d.

3. Treatment for pilonidal cyst

   a. Antibiotics are administered

   b. When abscess develops incision and drainage is indicated.

   c. Surgical removal of entire cyst on recurrence.

   d. Healing takes place by granulation (cells rebuild themselves), since defect may be to large for suturing.

I. Hemorrhoids

1. Defintion: Varicose veins of the anal canal, which can be either internal or external.

2. Clinical manifestations

   a.

   b.

   c.

   d.

3. Nursing care and treatment

   a. Medical

      1)

      2)

      3)

      4)

      5)

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6)

b. Surgical (hemorrhoidectomy)

1) Dilation of rectal sphincter

2) Excision of hemorroid

J. Intestinal Obstruction

1. Definition: An interruption in the normal flow of intestinal contents along the intestinal tract.

2. Types of obstruction

a. ______________________________: A physical block to passage of intestinal contents without disturbing blood supply to bowel.

1) Colicky cramps

2) Minimal distention

3) Vomiting (possibly containing fecal matter)

4) Increased bowel sounds

5) Minimal generalized tenderness

6) Fever

7) Toxicity and dehydration leading to shock.

b. ______________________: Reduction in blood supply leading to gangrene of the bowel.

1) Severe pain, continuous and localized

2) Moderate distention

3) Persistent vomiting (possibly containing fecal matter)

4) Decreased bowel sounds

5) Marked, localized tenderness

c. ______________________: Peristalsis is ineffective, no physical obstruction and no interrupted blood supply.

1) Gaseous distention is prominent

2) Abdomen is tense, pain is dull and generalized

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3) Obstipation (intractable constipation)

4) Infrequent bowel sounds

5) Vomiting only after eating

3. Predominate signs and symptoms of intestinal obstructions

a.

b.

c.

c.

e.

4. Management of intestinal obstruction

a. Medical

1)

2)

3)

b. Surgical

1) Relieve obstruction by releasing or repairing the cause of the obstruction.

2) Relieve obstruction by removing the cause of the obstruction

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K. Colostomy

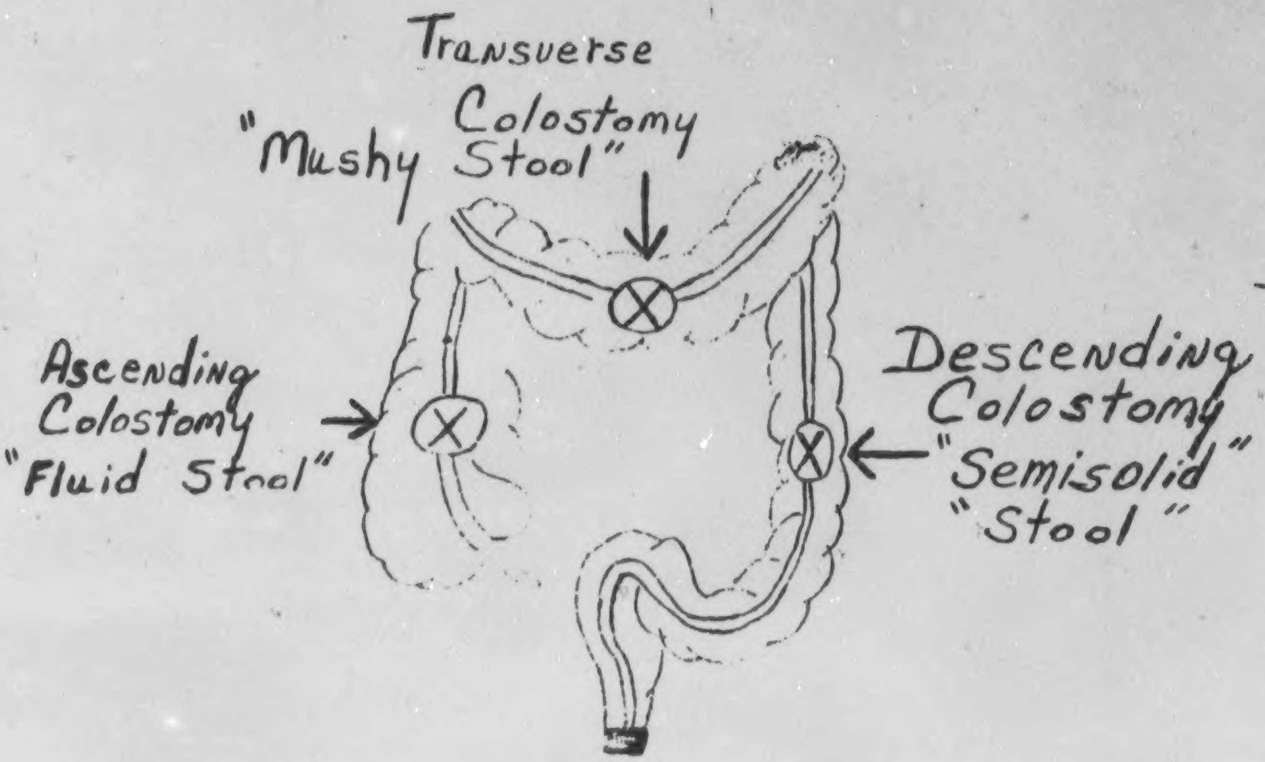
1. Definition: A temporary or permanent opening of the colon through the abdominal wall.

2. Common colostomy sites

a.

b.

c.


Transverse Colostomy
"Mushy Stool"
Ascending Colostomy
"Fluid Stool"
Descending Colostomy
"Semisolid"
"Stool"

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3. Nursing care with colostomies

    a.

    b.

    c.

L. Definitions:

1. Fissure in ano:

2. Appendicitis:

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

*M 65-340-018-1
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Nursing Procedures for Respiratory Conditions

Objectives:

1. Given a diagram and a list, match the structure of the respiratory tract and select the function of each structure, as discussed in class.

2. Given a list, select the correct definition, cause(s), signs and symptoms, and nursing care for a respiratory condition, to include: allergic rhinitis, URI, bronchitis, bronchial asthma, pneumonia, and pleurisy, as discussed in class.

3. Given a list, select the nursing care to be given the patient receiving oxygen therapy, as stated in class.

4. Given a list, select the definition of thoracentesis and bronchoscopy, as stated in class.

5. Given a list, select the precautionary measures to be observed when setting up an oxygen tank and administering oxygen therapy, as discussed in class.

6. Given a patient, and after practice, perform postural drainage, percussion, and collection of a sputum specimen for culture, as demonstrated in class.

*7. Given the proper equipment and after practice, set up oxygen therapy equipment, as discussed in class.

*Terminal Objective

NOTES

A. Structure of Respiratory Tract

1. Nose

a. Structure

(1) Nasal septum:

(2) Mucous membrane:

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*This mimeo supersedes M 65-340-018-1, 057

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b. Function

(1)

(2)

2. Pharynx

   a. Structure

      (1) Contains two nasal cavities, mouth, esophagus, larynx, and eustachian tubes

      (2) Tonsils and adenoids located in pharynx

   b. Function: Passageway for food and air

3. Larynx

   a. Vocal cords

   b. Epiglottis

4. Trachea

   a. Structure: C-shaped cartilage rings which forms the bronchial tree

   b. Function: Passageway for air

5. Bronchial tree

   a. Structure

      (1) Branches into smaller and smaller tubes which end in the alveoli

      (2) Alveoli: Small grape-like sacs within the lungs

   b. Function: Exchange of oxygen and carbon dioxide

6. Lungs

   a. Structure

(1) Three lobes on right, two on left

(2) Pleura: A moist, smooth membrane that lines the chest cavity

b. Function: Exchange of oxygen and carbon dioxide

B. Respiration: The Process of Exchanging Oxygen and Carbon Dioxide

1. External respiration

a. Takes place in alveoli

b. Oxygen obtained from outside air is passed into blood stream

c. Carbon dioxide leaves blood stream and passes to outside air

2. Internal respiration

a. Takes place in tissue of body

b. Oxygen transported by blood passes into cells

c. Carbon dioxide leaves cells and enters blood

C. Respiratory Conditions

1. URI (Upper respiratory infection'

a. Cause: Viral infection of the upper respiratory tract

b. Symptoms

(1)

(2)

(3)

(4)

c. Nursing care and treatment

(1)

(2)

(3)

(4)

2. Bronchitis - acute inflammation of the mucous membranes of the trachea and bronchial tree

a. Cause

(1) Complication of URI

(2) Inhalation of physical or chemical irritants

b. Signs and symptoms

(1)

(2)

c. Nursing care and treatment

(1)

(2)

(3)

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(4)

(5)

(6)

(7)

3. Pneumonia - partial solidification of the lungs, due to the filling of the alveoli with an inflammatory exudate

   a. Cause

      (1) Bacterial or viral infection

      (2) Aspiration of fluids from stomach content or fluid intake

   b. Signs and symptoms

      (1)

      (2)

      (3)

      (4)

      (5)

      (6)

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c. Nursing care and treatment

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

4. Bronchial asthma - a form of paroxysmal dyspnea, predominantly expiratory in type

a. Cause

(1) Emotional factors

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(2) Pulmonary infection

(3) Allergies

b. Signs and symptoms

(1) Impending attack

(a)

(b)

(c)

(d)

(2) Acute attack

(a)

(b)

(c)

(d)

(e)

c. Nursing care and treatment

(1)

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(2)

(3)

(4)

(5)

(6)

(7)

(8)

5. Pleurisy - an inflammation of the pleural membrane surrounding the lungs

   a. Cause: Other infections of respiratory system, i.e., bronchitis, pneumonia, URI

   b. Symptoms

      (1)

      (2)

   c. Nursing care and treatment

      (1)

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(2)

(3)

6. Allergic rhinitis - an inflammation of the mucous membrane of the nose

   a. Cause: Inhalation of airborne pollens or chemical irritants

   b. Signs and symptoms

      (1)

      (2)

      (3)

      (4)

   c. Nursing care and treatment

      (1)

      (2)

      (3)

D. Oxygen Therapy

NOTE: Oxygen is essential to life and cannot be stored in the body. It must be constant and in sufficient amount to sustain life.

1. Indication of need of oxygen

   a. Early signs and symptoms

      (1)

      (2)

      (3)

      (4)

   b. Late signs and symptoms

      (1)

      (2)

      (3)

      (4)

      (5)

2. Precautions

   a.

   b.

   c.

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3. Setting up oxygen tank

   a. Secure cylinder

      (1)

      (2)

      (3)

   b.

   c.

   d.

4. Nursing care

   a.

   b.

   c.

   d.

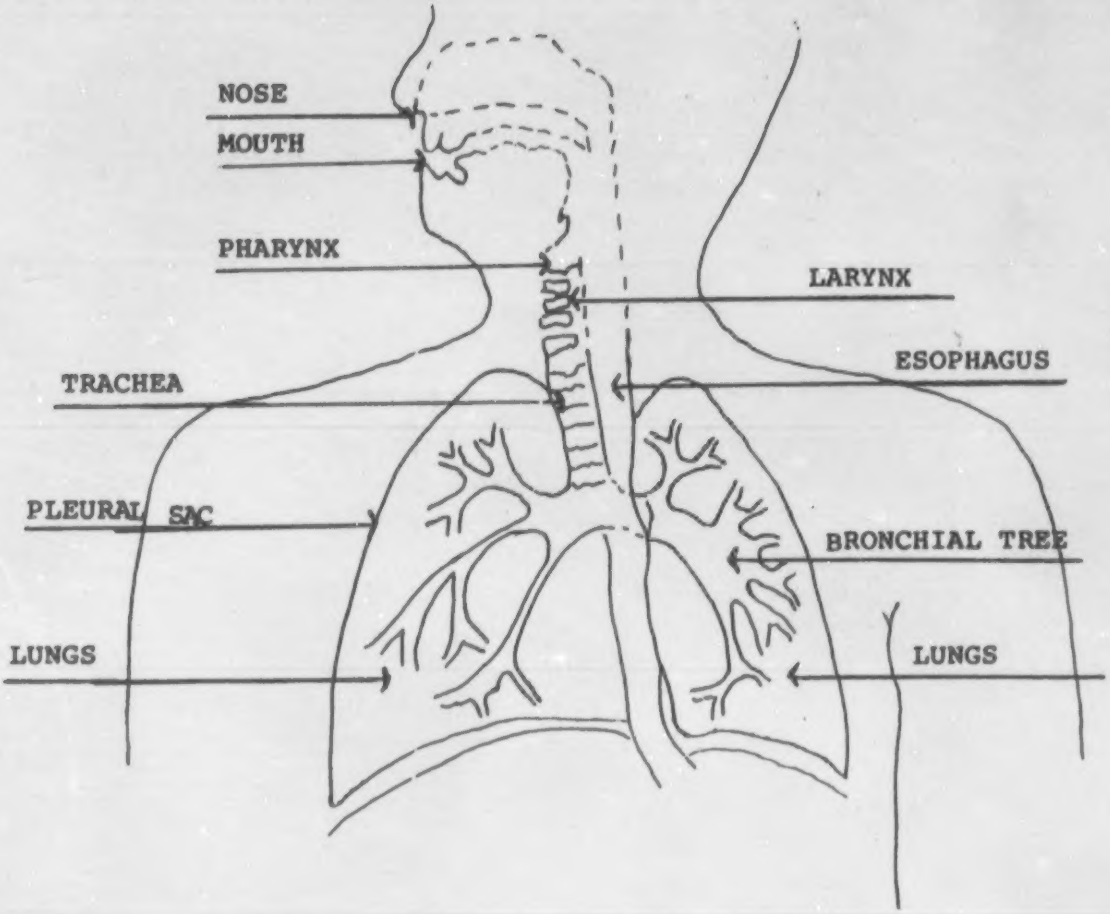
   e.

E. Respiratory Procedures

1. Thoracentesis: The surgical puncture of the chest wall to withdraw fluid or air from the pleural cavity for diagnostic and therapeutic purposes.

2. Bronchoscopy: An operative procedure to visualize the inside of the lungs or to remove secretions which cannot be coughed up and are blocking the passage of air.

STRUCTURE OF RESPIRATORY TRACT


NOSE
MOUTH
PHARYNX
LARYNX
ESOPHAGUS
TRACHEA
PLEURAL SAC
BRONCHIAL TREE
LUNGS
LUNGS

*M 65-340-019-1
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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Nursing Care in Chronic Diseases

Objectives

1. Given a list of definitions, select the definition for COPD, CHF, cancer, diabetes, alcoholism, seizure disorders and arthritis, as given in class.

2. Given a list of signs and symptoms, select the signs and symptoms for COPD, CHF, cancer, diabetes, alcoholism, seizure disorders, and arthritis, as given in class.

3. Given a list of nursing care measures, select the proper nursing care measures for COPD, CHF, cancer, diabetes, seizure disorders, alcoholism, and arthritis as given in class.

NOTES

A. COPD (Chronic Obstructive Pulmonary Disease)

1. Definition: Any chronic disease or condition of the respiratory system which permanently limits the function of respiration.

2. Predisposing Factors:

   a. Cigarette smoking

   b. Air pollution

   c. Occupational hazards

3. Early signs and symptoms

   a. Dyspnea

   b. Intermittant cough

   c. Fatigue

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*This mimeo supersedes M 65-340-019-1, 057

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4. Later signs and symptoms of COPD

   a.

   b.

   c.

   d.

   e.

   f.

   g.

   h.

   i.

   j.

   k.

   l.

   m.

5. Nursing care measures

   a. No smoking

   b. Maintain adequate fluid intake; push fluids if not restricted

   c. Daily weights

   d. Frequent oral care

   e. Reposition as needed

   f. O_2 therapy as ordered

   g. IPPB and postural drainage as ordered

   h. Breathing exercises

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    - (1) Conscious forceful blowing out of air
    - (2) Blowing into paper bag
    - (3) Blowing a pencil along table top
    - (4) Blowing into balloons
  - i. Patient teaching
    - (1) Avoid cold air
    - (2) Breathing exercises
    - (3) No smoking
  - j. Proper ventilation and temperature
  - k. Provide rest periods between care
  - l. Diet given in several small meals
  - m. I & O
  - n. Side rails
  - o. Emotional support

B. CHF (Congestive Heart Failure)

- 1. Definition: a condition in which the heart, due to weak muscle, does not adequately empty one or more chambers during contraction. This in turn, leads to congestion (back-up) of the pulmonary or the systemic circulation or both.
- 2. Signs and symptoms
  - a. Left-sided failure
    - (1)
    - (2)
    - (3)

(4)

(5)

(6)

b. Right-sided failure

3. Nursing care measures

a.

b.

c.

d.

e.

f.

g.

h.

i.

(1)

(2)

j.

(1)

(2)

(3)

C. Seizure Disorders

1. Definition: Disorganized electrical discharge from the brain causing abnormal muscle activity.

2. Types

   a. General (Grand Mal)

      (1) Signs

         (a)

         (b)

         (c)

         (d)

         (e)

         (f)

         (g)

         (h)

         (i)

         (j)

   b. Partial (Petit Mal)

      (1) Signs

         (a)

         (b)

         (c)

         (d)

3. Nursing care measures

   a.

   b.

   c.

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d.

e.

f.

g.

h.

D. Arthritis

1. Definition: Chronic inflammation of a joint which eventually leads to degenerative changes and decreasing function.

2. Signs and symptoms

a. Initial

(1)

(2)

b. Progressive

(1)

(2)

(3)

(4)

(5)

3. Nursing care measures

a.

b.

c.

d.

e.

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f.

g.

h.

E. Alcoholism

1. Definition: A progressive disease manifested by a dependence on ethanol (alcohol) and increasingly weakened health.

2. Signs and symptoms of ETOH withdrawal

a.

b.

c.

d.

e.

f.

(1)

(2)

(3)

g.

h.

i.

j.

k.

3. Signs and symptoms of chronic alcoholism

a.

b.

c.

d.

e.

f.

g.

h.

i.

j.

4. Nursing care measures for alcohol withdrawal

a.

b.

c.

d.

e.

f.

g.

h.

i. Observe for:

(1)

(2)

j.

k.

l.

m.

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5. Nursing care for complications of chronic alcoholism

   a.

   b.

   c.

   d.

   e.

   f.

   g.

   h.

   i.

F. Diabetes Mellitus

1. Definition: A disease condition in which the body produces insulin in quantities insufficient to maintain normal levels of blood sugar.

2. Signs and symptoms

   a.

   b.

   c.

   d.

   e.

   f.

   g.

   h.

3. Complications of diabetes mellitus

a. Keto-acidosis

(1) Definition: An insufficient level of insulin resulting in abnormal metabolism and fluid and electrolyte imbalances.

(2) Early signs and symptoms

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(h)

(i)

(j)

(k)

(l)

(m)

(n)

(o)

(p)

(3) Late signs and symptoms

(a)

(b)

(c)

(4) Nursing measures in keto-acidosis

(a)

(b)

(c)

(d)

(e)

b. Hypoglycemia

(1) Definition: Low blood sugar, resulting from excessive circulating insulin

(2) Signs and symptoms

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(h)

(i)

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(j)

(k)

(l)

(m)

(3) Nursing care measures for insulin shock

(a) Administering oral carbohydrates, e.g., OJ and sugar

(b) Remain with patient

(c) Blood and urine samples

(d) Observe patient closely for evidence of recurrent hypoglycemia

(e) Notify nurse

4. Nursing care measures in diabetes mellitus

a. Diet: control CHO (carbohydrate) intake

b. Exercise: control activity

c. Skin care(hands and feet): DO NOT CUT TOENAILS

d. Frequent turning

e. Sugar and acetone test on urine as ordered

f. Patient education

G. Cancer

1. Definition: A malignant (or spreading) disease that starts out as one of the patient's own cells that grows abnormally. Unless it is removed or arrested, it will grow and metastasize (spread and invade) to other parts of the body and eventually end in death of the patient.

2. Predisposing factors

    a. Long-term, continuous irritation

        (1)

        (2)

        (3)

    b. Exposure to specific agents

        (1)

        (2)

        (3)

        (4)

    c. Tumors and benign lesions that have a tendency toward malignant transformation

3. Warning signs and symptoms

    a.

    b.

    c.

    d.

    e.

    f.

    g.

4. Advanced signs and symptoms

    a.

    b.

    c.

d.

e.

f.

g.

5. Nursing care of patients with advanced cancer

a.

b.

c.

d.

e.

f.

g.

h.

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCE

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Death and Dying

Objectives

1. Given a list and/or a patient situation, select the five (5) stages of the psychosocial process through which the patient and his family may learn to accept death (five stages of death and grief).
2. Given a list, select the responsibilities of the 91C20 in caring for the dying patient.

NOTES

A. Five Stages of Psychosocial Behavior

1. First stage:
    a.

    b.

2. Second stage:
    a.

    b.

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* This memeo supersedes M 65-340-020, 057

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3. Third stage:

   a.

   b.

4. Fourth stage:

   a.

   b.

      (1)

      (2)

5. Fifth stage:

   a.

   b.

B. Accidental and Sudden Death

   1.

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2.

a.

b.

C. 91C20's Responsibilities in Dealing With the Dying patient

1. Temporary phases

2. Not always in sequence

3. 91C20 and others involved may exhibit these mechanisms in their behavior

4. View patient as a person not a disease entity

5. Acceptance of patient

   a. Provision of concerned care

   b. Do not withdraw from patient

6. Be honest when communicating with patient

7. Recognize limitations

   a. Refer patient and/or family to

      (1) Nurse

      (2) Physician

      (3) Chaplain

      (4) Social worker

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
Enlisted Instructional Branch

Post Mortem Care

OBJECTIVES:

1. Given a list, select the proper steps in the intial care of a deceased patient as stated in class.
2. From a list, select the equipment necessary to perform post mortem care as stated in class.
3. From a list, select the proper steps of final care of a deceased patient as stated in class.

*4. Given the proper equipment and a deceased patient, perform post mortem care as stated in TM 8-230.

NOTES

A. Delay Preparation of the Body

1. Relatives may wish to view the body.
2. Check with the medical officer or nurse to find out EXACTLY what steps are to be followed if a delay is indicated.

B. Initial Care - Steps in Procedure

1.

2.

3.

4.

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5.

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*This Mimeo supersedes M 65-340-021, 047.

C. Equipment

1. Assemble equipment necessary for final care

a.

b.

c.

d.

e.

f.

g.

h.

i.

j.

k.

l.

m.

n.

o.

p.

q.

r.

s.

D. Death Pack

NOTE: Equipment contained in Brooke Army Medical Center Death Pack may vary in accordance with Hospital Policy.

a. Paper sack with rubber band around it

b. ABD pad

c. 4 x 4 cotton wadding

d. 4 safety pins

e. 4 Q-tips

f. 4 tongue blades

g. One roll 3 inch roller gauze

h. One cravat

i. Three death tags, DA Form 3910

j. Two BAMC F/L 478 (NS) on a DA Form 2496 overprint

k. Two Standard Form 523-A (Disposition of Body)

l. Two Standard Form 523, (Authorization for Autopsy)

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m. BAMC Form 208 (NS) Worksheet for securing information for the State Death Certificate.

n. Three BAMC Form 203 (Inventory of Personal Effects of Deceased Personnel)

o. Four DA Form 3894 (Hospital report of Death)

E. Final Care -Steps in Procedure

1. Steps 1-5 of Initial Care

2. Remove top bedding except for drape

3. Remove pajamas

4. Remove dressings, drainage tubes or catheter. Clean old adhesive tape markings. If wounds are draining place minimal clean guaze pads over area.

5. Press gently on bladder to expel accumulated urine. Form large pad of cotton and ABD pad and place over rectal area to absorb feces and urine which will be expelled as sphincter muscles relax. Hold pad in place with bandage T-binder.

6. Bathe body gently.

7. Prop sagging jaw with folded ABD pads (padded well with cotton).

8. Pad ankles with cotton and tie together with roller gauze.

9. Death tags (must be signed by medical officer).

   a. Tie one to right great toe.

   b. Tie one to left wrist

   c. Third tag will be tied outside of sheet later.

10. Roll body to side of bed. While assistant supports the body, place one clean sheet diagonally under the body.

11. Roll the body back to the center of bed.

12. Fold the upper corner of the sheet loosely over the head and face with the lower corner over the feet. Secure the arms at the side, as the right and left corners of the sheet are brought over to complete the wrapping. Fasten the sheets with safety pins.

13. Fasten the third death tag to the outside of the sheet. If the dentures could not be replaced in the mouth, wrap them in gauze, identify, and pin the dentures next to the tag.

14. Lift the wrapped body to the stretcher, using the bottom sheet for lifting. Fasten the litter straps at the chest and just above the knees, avoiding any pressure. Cover the body with a sheet.

15. Before moving the body from the preparation room, obtain the clinical records which accompany the body to the morgue and notify the morgue attendant by telephone. If the elevator is used, signal for it and hold it at the required floor. Be sure all doors are closed to prevent other patients from witnessing removal. Avoid lobbies and public entrances if possible.

16. Transport the body quietly and with dignity to the morgue. Remain with the body until the lab attendant or morgue attendant has received it and transferred it from the stretcher. Turn the records over to the morgue attendant.

17. Return to the ward with the stretcher and proceed with the terminal cleaning of the patient's unit.

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ENLISTED INSTRUCTION BRANCH

Conduct of Sick Call

Objectives:

1. Given a list of definitions, select the definition of sick call according to TM 8-230.
2. Given a list of responsibilities and/or functions, choose the 91C20's responsibility and/or function in treating a patient on sick call.
3. Given a list, select the purpose of screening procedures utilized on sick call.
4. From a given list, select the areas to be assessed when screening a patient on sick call.
5. Given a list of procedures, select the appropriate procedures used when a patient is suspected of having a contagious disease.
6. Given a list of post treatment measures, choose those measures a 91C20 may perform in the conduct of sick call.
7. Given a list, choose methods of dealing with an obstreperous patient as stated in class.

NOTES

A. Purpose of Sick Call - According to TM 8-230 sick call is a daily assembly of sick and injured military duty personnel, held each day at a designated place and time to provide routine medical examination and treatment of sick and injured.

B. The 91C20's responsibility and/or function in treating a patient on sick call.

1.

2.

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* This Mimeo supersedes M 65-340-022-1, 057

C. Purpose of screening procedures utilized on sick call.

1.

a.

b.

2. Receive patient and records

a.

b.

3. Insure notations of observations and complaints are taken.

a.

b.

D. Areas to be assessed when screening a patient

1. Skin: lips and nailbeds especially

a.

b.

c.

2. Wounds

a.

b.

3. Eyes and eyelids

a.

b.

c.

4. Complaints of pain
    a.
    b.
    c.
5. State of consciousness
    a.
    b.
    c.
6. Nausea or vomiting
    a.
    b.
    c.
7. Temperature, pulse, respirations and BP
    a.
    b.
    c.
    d.

E. Procedures used when a patient is suspected of having a contagious disease
1.
2.
3.

F. Post treatment measures a 91C20 may perform in the conduct of sick call.
1. Detains patient until
    a.
    b.
    c.

2. Detains patient for observation

   a.

   b.

G. Methods of dealing with obstreperous patients

   1.

   2.

   3.

ACADEMY OF HEALTH SCIENCES, USA
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Assisting with the Physical Examination

Objectives:

1. List the types of physical examinations commonly performed in the ambulatory care clinic.

2. Identify specific patient record forms utilized in recording results of a routine physical examination.

3. Given a list select portions of physical examination that may be the responsibility of the 91C20.

4. Given a list, identify equipment used in performing a routine physical examination.

5. Given a situation(s), determine whether or not the conduct of a 91C20 was displayed and appropriate to the situation.

NOTES

A. Types of Physical Examinations

1. Periodic medical examination

   a.

      (1)

      (2)

   b.

2. Separation

   a.

   b.

3. Retirement

   a.

   b.

4. Flight status

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5. Advancement or Promotion

6. Regular Army and OCS applicants

B. Forms Utilized in Physical Examination

1.

2.

3.

C. Responsibilities of the 91C20 Personnel

1.

2.

3.

4.

5.

6.

a.

b.

c.

d.

e.

D. Equipment Used in Physical Exam

1. BP cuff

2. Stethoscope

3. Thermometers

4. Scale and Height Rod

5. Otoscope

6. Ophalmascope

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7. Percussion hammer

8. Tuning fork

9. Tongue blade

10. Gooseneck lamp

11. Tourniquet

12. Veinpuncture equipment (alcohol/iodine preps)

13. Gloves

14. Lubricant

15. Routine Pelvic (OB/Gyn) instruments (speculum, vaginal swabs, specimen slides, fixation and preservatives)

16. Drapes and sheets

17. Towels

E. Conduct of 91C20 Personnel

1.

2.

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
Enlisted Instructional Branch

Collection and Storage of Specimens

OBJECTIVES:

1. Given a list of specific tests to be obtained, complete appropriate laboratory slips, as discussed in class.

**2. Given proper equipment, and after practice, collect routine urine speciman; urine specimen for culture and sensitivity, and urine specimen from a catheter, as demonstrated in class.

3. Given a urine sample, and proper equipment, perform a sugar and acetone test and measure the specific gravity, as demonstrated in class.

4. Given a stool specimen, the proper equipment, and after practice, perform a Guiac test on the stool specimen as demonstrated in class.

5. Given a list, select the precautions for continous collection and storage of urine and stool, as presented in class.

6. Given proper equipment, and after practice, obtain a throat culture as demonstrated in class.

**7. Given a blood test to be drawn and the proper equipment, draw the blood specimen and fill out the appropriate laboratory slip as demonstrated in class. Destroy needle and syringe after use.

**Terminal Objective

NOTES

A. Laboratory Slips

1.

2.

3.

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4. Precautions for handling

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*This mimeo supersedes M 65-340-024-1, 057

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a.

b.

c.

5. Specific tests

a. Chem I, II, III

1)

2)

3)

4)

5)

b. Hematology I, II

1)

2)

3)

c. Bacteriology I, II

1)

2)

3)

4)

d. Serology

1)

2)

3)

e. Spinal Fluid

1)

2)

3)

f. Parasitology

1)

2)

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g. Urinalysis

1)

2)

B. Collection of Specimens

1. Routine urine collection

a. Check order

b. Assemble equipment

1) Urinal or Bedpan

2) Specimen Container

3) Specimen Label

4) Lab Slip

C. Identify and instruct patient on procedure

d. Wash Hands

e. Obtain urine specimen

1) 120cc volume

2) Have patient void into container if possible

3) Provide privacy if necessary

4) Avoid contaminating container

f. Reseal container

g. Clean and dry outside of container

h. Attach label and lab slip

i. Have patient wash hands

j. Wash hands

k. Forward to laboratory

l. Chart in nursing notes

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2. Clean catch midstream voided urine

   a. Male

      1) Check order
      2) Assemble equipment
         a) Antiseptic solution
         b) Sterile basin
         c) Cotton balls
         d) Sterile container
         e) Container label
         f) Lab slip
      3) Identify and instruct patient on procedure
      4) Provide privacy or allow patient to use restroom
      5) Have patient wash hands
      6) Instruct patient to expose penis
      7) Cleanse meatus with antiseptic solution
      8) Have patient initiate stream of urine
      9) Have patient stop stream
      10) Open sterile container
      11) Collect specimen in sterile container
      12) Complete voiding
      13) Seal container
      14) Have patient wash hands
      15) Clean and dry outside of container
      16) Attach label and lab slip
      17) Forward to laboratory
      18) Record in Nursing Notes

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b. Female

1) Check order

2) Assemble equipment

   a) Antiseptic solution

   b) Sterile container

   c) Bed pan

   d) Chux

   e) Container label

   f) Lab slip

   g) Disposable gloves

3) Identify and instruct patient on procedure

4) Provide privacy (drape)

5) Place chux under patient

6) Wash hands (patient and staff)

7) Apply gloves (patient or staff)

8) Instruct patient to separate labia to expose meatus (may be done by staff)

9) Cleanse area with antiseptic solution

   a) Use left hand to keep labia separate

   b) Cleanse from pubis to anus

   c) If phisohex is used, rinse with sterile water

10) Assist patient to bathroom or place on bedpan

11) Instruct patient to initiate stream of urine

12) Have patient stop stream

13) Open sterile container

14) Collect specimen

15) Reseal container

16) Complete void: have patient cleanse self

17) Remove gloves (patient or staff)

18) Have patient wash hands

19) Assist back to bed or remove bedpan

20) Clean and dry container

21) Wash hands

22) Attach label and lab slip

23) Forward to lab

24) Record in Nursing Notes

3. Collection of urine from indwelling catheter

   a. Check order

   b. Assemble equipment

      1) Twenty-one gauge 1 1/2 inch sterile needle

      2) 20cc sterile syringe

      3) Betadine prep

      4) Sterile container

      5) Small clamp

      6) Specimen label

      7) Lab slip

   c. Wash hands

   d. Identify and instruct patient on procedure

   e. Provide privacy

   f. Clamp catheter

      1) Clamp on soft catheter at junction with drainage bag tube

      2) 15-30 minutes sufficient

   g. Cleanse catheter with betadine swab (area of insertion of needles)

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h. Introduce needle into catheter in area cleansed with betadine

i. Aspirate syringe: withdraw 20cc if available

j. Withdraw needle and syringe from catheter

k. Remove clamp

l. Open sterile container

m. Deposit urine in sterile container

n. Close container

o. Attach label and lab slip

p. Forward to laboratory

q. Dispose of needle and syringe, wash hands

r. Record in Nursing notes

4. Perform sugar and acetone test on urine

a. Clinitest two-drop method for sugar

1) Have patient void: empty bladder

2) Have patient drink a couple of glasses of water

3) Approximately one half hour later collect specimen of urine in clean container

4) Assemble equipment (usually dirty side of utility room)

a) Clinitest tablets

b) Test tube and holder

c) Eye dropper

d) Colormetric chart two-drop method

5) Place two drops of urine in test tube

6) Rinse dropper

7) Add ten drops of water to test tube

8) Drop one clinitest tablet into test tube

9) Place in holder, watch while reaction takes place (do not shake)

10) After reaction complete, wait an additional 15 seconds, gently shake tube

11) Compare with colormetric chart for two-drop method

12) Wash hands, dispose of remaining specimen

13) Notify team leader or RN of results

14) Chart results on appropriate form

b. Clinitest five-drop method for sugar

1) Have patient void: empty bladder

2) Have patient drink a couple of glasses of water

3) Approximately one half hour later collect specimen of urine in clean container

4) Assemble equipment (usually dirty side of utility room)

   a) Clinitest tablets

   b) Test tube and holder

   c) Eye dropper

   d) Colormetric chart five-method

5) Place 5 drops of urine in test tube

6) Rinse dropper

7) Add ten drops of water to test tube

8) Drop one clinitest tablet in test tube

9) Place in holder, watch while reaction takes place (do not shake)

10) After reaction complete wait an additional 15 seconds, gently shake tube

11) Compare colormetric chart for 5-drop method

12) Wash hands and dispose of remaining specimen

13) Notify team leader or RN of results

14) Chart results on appropriate form

c. Testing urine for ketone bodies (Acetone)

1) The same urine specimen is used to test for both sugar and acetone

2) Assemble equipment (usually dirty side of the utility room)

a) Acetest tablets

b) Paper towel

c) Eye dropper

d) Colormetric chart for acetone

3) Place one tablet on the paper towel

4) Place one drop of urine on tablet

5) Wait thirty seconds

6) Compare color of tablet with the colormetric chart

7) Wash hands and dispose of remaining specimen

8) Report results to team leader or RN

9) Chart results on appropriate form

5. Measurement of urine specific gravity

a. Check order

b. Inform patient a random specimen is needed, provide with container, wash hands after providing specimen

c. Obtain specimen and allow to cool to room temperature

d. Assemble equipment (usually dirty side of utility room)

1) Urine cylinder

2) Urinometer

e. Place cylinder of urinometer on level surface

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f. Fill three quarters full or urine

g. Hold urinometer at top of stem and place in the cylinder

h. Read value from bottom of meniscus

i. Wash hands

j. Report results to team leader or RN

k. Chart results in Nursing Notes

6. Collection of stool specimen

a. Check order

b. Assemble equipment

1. Tongue blades

2. Plastic or cardboard container

3. Bedpan or bedside commode

4. Specimen label

5. Lab slip

c. Identify and instruct patient on procedure

d. Have patient deposit stool and wash hands

e. Have patient wash hands

f. Collect specimen and palce in container

g. Wash hands

h. Attach label and lab slip

i. Forward to lab

j. Notify team leader or RN, any unusual characteristics; color, blood, diarrhea

k. Chart in Nursing Notes: include unusual characteristics

7. Testing a stool specimen for the presence of occult blood

a. Check order

b. Assemble equipment

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1) Tongue blades

2) Plastic or cardboard container

3) Bedpan or bedside commode

4) Guaiac reagent

5) Guaiac testing cards

c. Obtain stool specimen

d. Open front of guaiac testing card and place small amount of stool on circular indentation

e. Place two drops of reagent of stool

f. Close cover

g. Wait 15-30 seconds, open back panel

h. Positive reaction: appearance of blue on paper surrounding or on stool

i. Wash hands

j. Report results to nurse. Record on appropriate form and in Nursing Notes

8. Obtaining a throat culture

a. Check order

b. Assemble equipment

1) Light source

2) Tongue depressors

3) Culturette

4) Specimen labels

5) Lab slips

c. Wash hands

d. Identify and instruct patient on procedure

e. Position patient: sitting facing you

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f. Adjust light source for maximum illumination of throat

g. Depress tongue with tongue blade

h. Remove sterile culturette from tube

i. Have patient say "Ah"

j. Gently swab soft palate and right or left tonsillar area using a downward stroke, swab any area that is suspicious

k. Remove the culturette quickly, but gently

l. Attach labels and lab slips

m. Forward to lab

n. Report to team leader or RN

o. Chart in Nursing Notes

9. Obtaining a blood specimen

a, Check order

b. Assemble equipment

1) Lab slip

2) Betadine or alcohol preps

3) Vaccutainer holder

4) Vaccutainer needles

a) Single draw

b) Multi-draw

5) Vacuum tubes

6) Tourniquet

7) Chux pad

c. Identify and instruct patient on procedure

d. Wash hands

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e. Place chux pad under arm to protect bedding

f. Apply tourniquet

  1) Place 3-4 inches above intended site of needle insertion

  2) Occlude venous circulation only, not arterial, check for pulse

g. Evaluate veins

  1) Do not use arm in which intravenous fluids are being administered

  2) Promote venous distention

    a) Have patient clench and unclench fist

    b) Have patient lower arm

    c) Warm compresses to arm

h. Cleanse skin with antiseptic at site of proposed insertion

i. Insert needle

  1) Hold skin taut to anchor vein

  2) 15-30° angle insertion

  3) Bevel up

j. After needle is inserted gently puncture rubber stopper of vacuum tube

k. Release tourniquet when collecting tubes are filled

l. Place antiseptic prep lightly over puncture site

m. Withdraw needle quickly

n. Apply firm pressure with antiseptic prep over puncture site for 30-60 seconds, have patient elevate arm

o. Remove vaccum tube from holder and agitate slightly if tube contains any additive

p. Attach label and lab slip to specimen

q. Forward to lab

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r. Destroy used or contaminated needles

s. Clean holder and return to storage area, wash hands

t. Notify team leader or RN

u. Chart in Nursing Notes

C. Precautions for Collection and Storage of Continuous Collection of Urine and Stool.

1.

a.

b.

c.

2.

a.

b.

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*M 65-340-025-1
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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Simple ENT Conditions

Objectives:

1. Given a list of terms and a diagram, label a drawing of the eye, external ear, and nose and throat, as discussed in class.
2. Given a list of 6 structures of the eye, choose the function of each, as discussed in class.
3. Given a condition affecting the eye, select its cause, signs and symptoms, and/or nursing implications, as discussed in class.
4. Given a list choose the function of the external ear as discussed in class.
5. Given a condition that affects the external ear, select its cause, signs and symptoms, and/or nursing implications as discussed in class.
6. Given a list, choose the function of the nose and throat as discussed in class.
7. Given a condition affecting the nose and throat, select its cause, signs and symptoms, and/or nursing implications as discussed in class.

NOTES

A. The Eye

1. Function:
2. Structure of the eye
    a. Conjunctiva

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*This Mimeo supersedes M 65-340-025-1, 057.

(1)

(2)

b. Pupil

(1)

(2)

c. Iris

(1)

(2)

d. Tear Duct

(1)

(2)

e. Cornea

(1)

(2)

f. Sclera

(1)

(2)

g. Lens

(1)

(2)

3. Conditions affecting the eye

a. Conjunctivitus: Inflammation of conjunctiva

(1) Causes

(a)

(b)

(c)

(d)

(2) Signs and symptoms

(a)

(b)

(c)

(d)

(e)

(3) Nursing implications

(a)

(b)

b. Sty: pustular inflammation of an eyelid follicle or sebaceous gland on the lid margin.

(1) Cause: Staphylococcal infection

(2) Signs and symptoms

(a)

(b)

(c)

(d)

(3) Nursing implications

(a) Instruct patient not to squeeze lesion due to possibility of spreading infection

(b)

c. Herpes Simplex: an acute viral infection which produces superficial clear vesicles

(1) Cause

(2) Signs and symptoms

(3) Nursing implications

d. Glaucoma: Increased intraocular pressure which changes the angle of the lens

(1) Cause: Inability of the eye to drain off the fluid that fills the eye

(2) Signs and symptoms

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(3) Nursing implications

(a)

(b)

e. Cataract: an opacity or clouding of the lens

(1) Cause

(a)

(b)

(c)

(d)

(2) Signs and symptoms

(a)

(b)

(c)

(d)

(3) Nursing implications

(a)

(b)

(c)

f. Foreign Bodies: Dust, sand, bugs, etc., that may become lodged in or on the conjunctival sac or in the eye

(1) Cause

(a)

(b)

(c)

(2) Signs and symptoms

(a)

(b)

(3) Nursing implications

(a)

(b)

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(c)

(d)

(e)

B. The External Ear

1. Function of the external ear: the collection and conduction of sound waves to the middle and the inner ear

2. Structure of the external ear

a.

b.

c.

d.

e.

f.

g.

3. Conditions affecting the external canal

a. External Otitis: inflammation of the external canal

(1) Cause

(2) Signs and symptoms

(a)

(b)

(3) Nursing implications

(a)

(b)

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(c)

b. Impacted Cerumen (Ear Wax): Cerumen build/up in external canal until canal is completely or partially occluded

(1) Cause

(2) Signs and symptoms

(a)

(b)

(c)

(3) Nursing implications

(a)

(b)

(c)

(d)

c, Foreign Bodies

(1) Cause

(a)

(b)

(2) Signs and symptoms

(a)

(b)

(c)

(d)

(e)

(3) Nursing implications

(a)

(b)

(c)

C. The Nose and Throat

1. Function of the nose and throat

a.

b.

c.

2. Structure of the nose and throat

a. Turbinates

(1)

(2)

b. Sinuses

(1)

(2)

c. Septum

d. Adenoids and Tonsils

(1)

(2)

3. Conditions affecting the nose and throat

a. Pharyngitis: inflammation of the pharynx

(1) Cause

a)

b)

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(2) Signs and symptoms

(a)

(b)

(c)

(d)

(e)

(3) Nursing implications

(a)

(b)

(c)

(d)

B. Sinustis: inflammation of the sinuses

(1) Cause

(a)

(b)

(c)

(2) Predisposing factors

(a)

(b)

(c)

(3) Signs and symptoms

(a)

(b)

(c)

(d)

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(4) Nursing implications

(a)

(b)

(c)

(d)

c. Tonsilitis: inflammation of the tonsils

(1) Cause

(a)

(b)

(2) Signs and symptoms

(a)

(b)

(c)

(d)

(3) Nursing implications

(a)

(b)

(c)

d. Polyps: masses of tissue that project outward from the nasal mucosa

(1) Cause:

(2) Signs and symptoms

(a)

(b)

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(3) Nursing implications

(a)

(b)

e. Epistaxis: Nose bleed

(1) Cause

(2) Signs and symptoms

(a)

(b)

(c)

(3) Nursing implications

(a)

(b)

(c)

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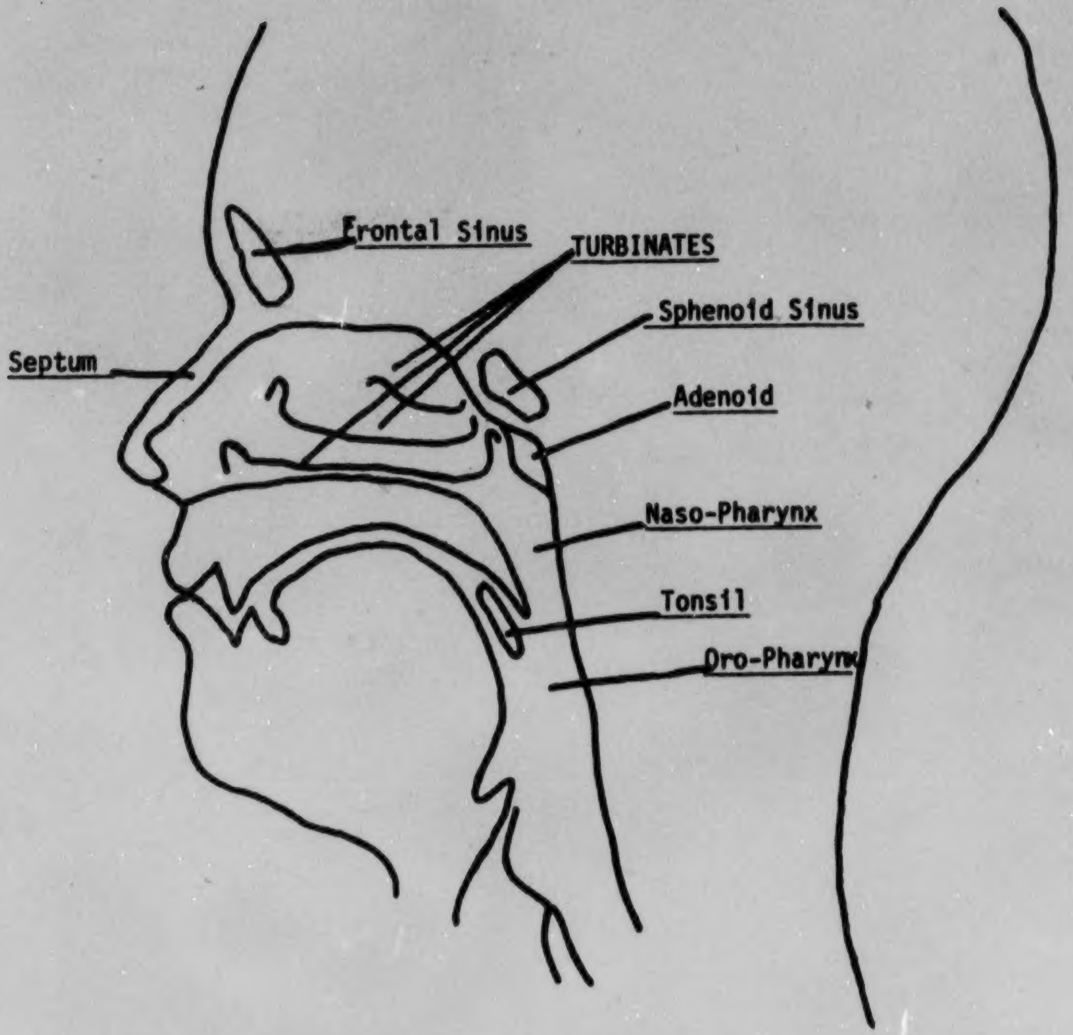
NURSING SCIENCE DIVISION

Structure of the Nose and Throat


Frontal Sinus
TURBINATES
Sphenoid Sinus
Septum
Adenoid
Naso-Pharynx
Tonsil
Oro-Pharynx

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*This Mimeo supersedes M 65-340-025-2, 057.

*M 65-340-025-3
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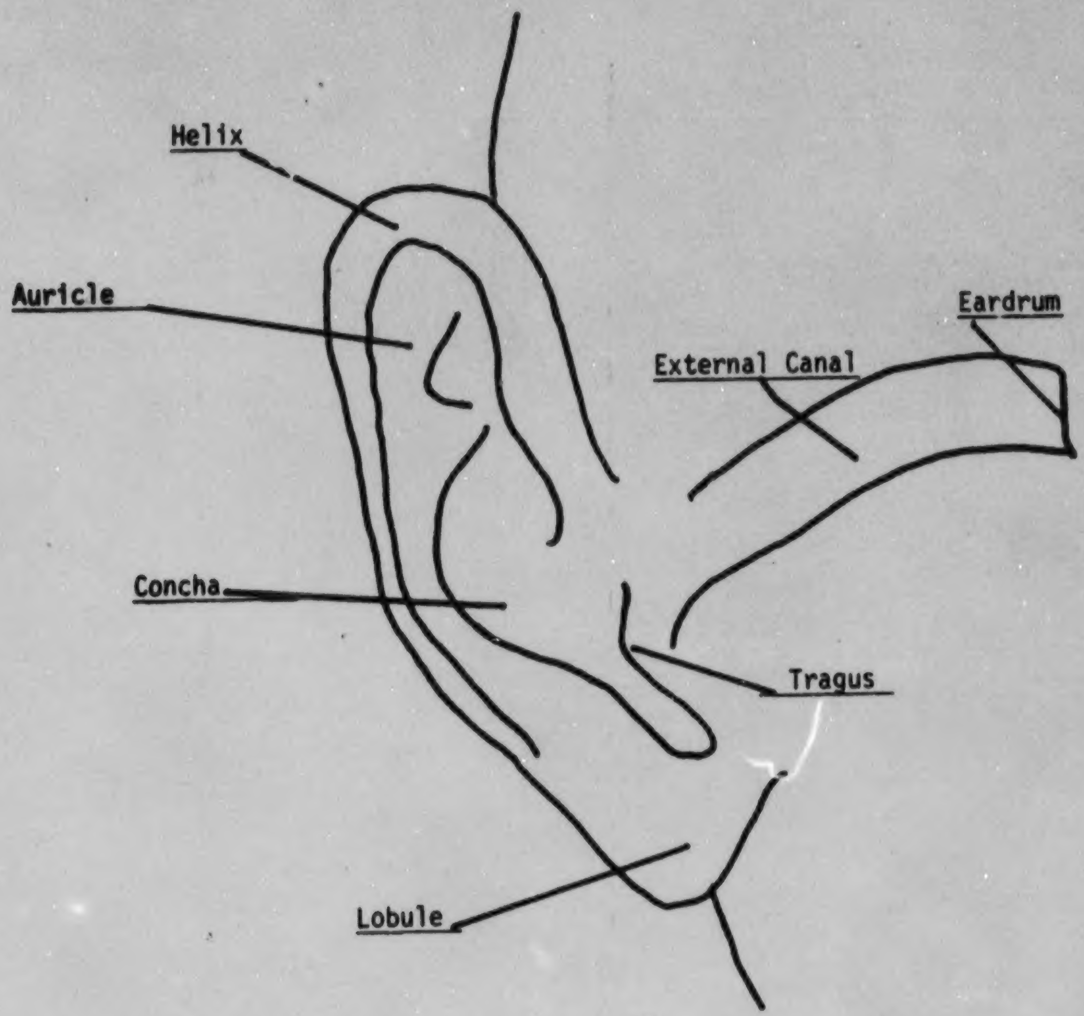
Structure of the External Ear


Helix
Auricle
Eardrum
External Canal
Concha
Tragus
Lobule

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*This Mimeo supersedes M 65-340-025-3, 057.

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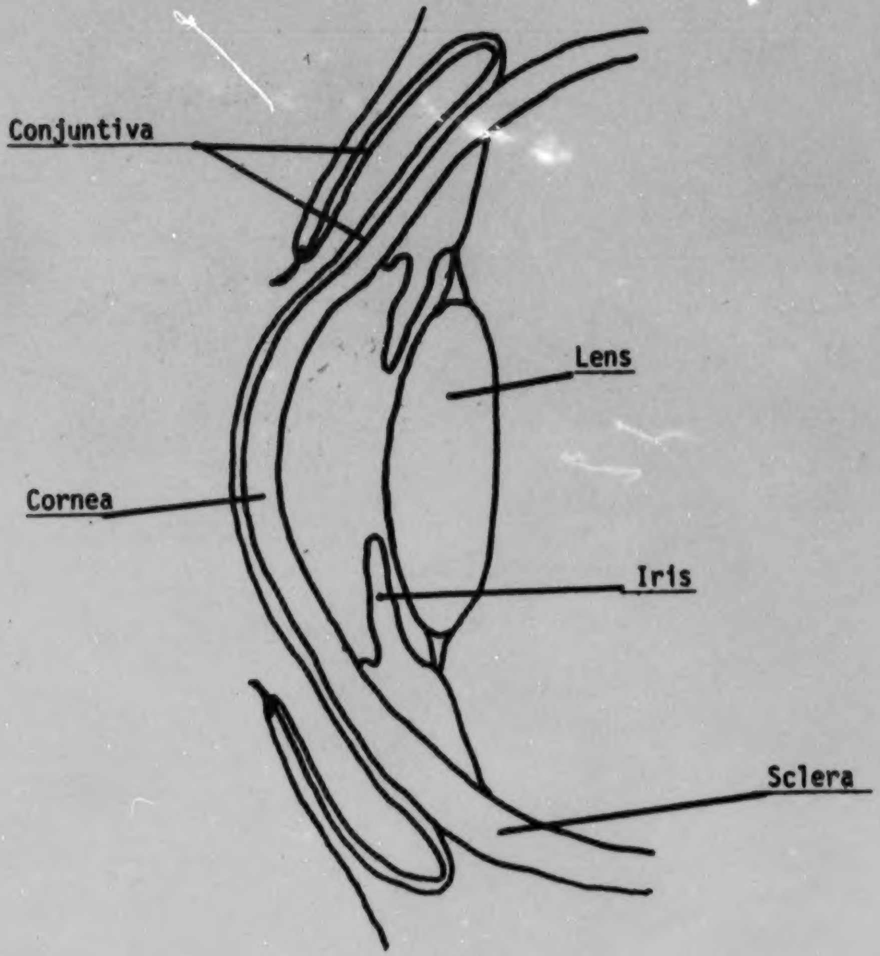
Structure of the Eye


Conjuntiva
Lens
Cornea
Iris
Sclera

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*This Mimeo supersedes M 65-340-025-4, 057.

*M 65-340-025-5
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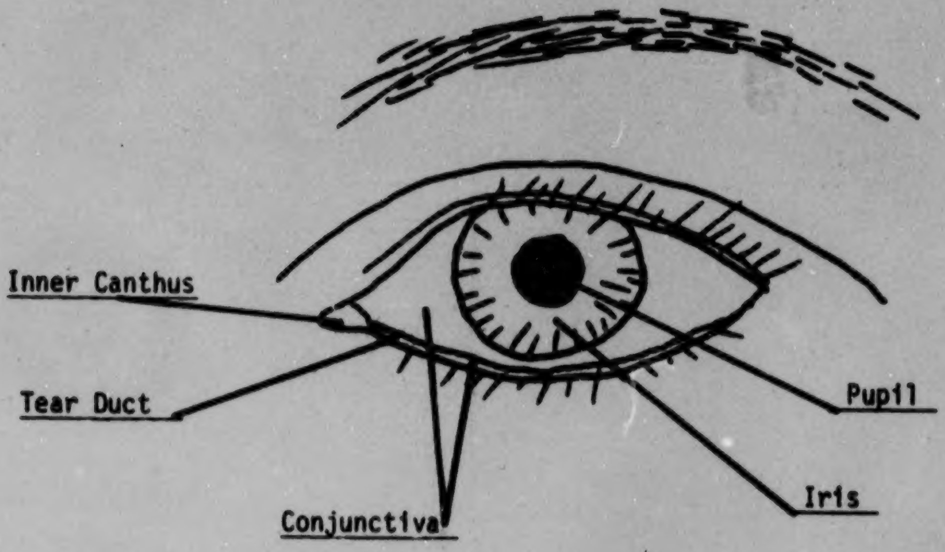
Structure of the Eye


Inner Canthus
Tear Duct
Conjunctiva
Pupil
Iris

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*This Mimeo supersedes M 65-340-025-5, 057.

**M 65-340-025-6
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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

Procedures for Simple EENT Conditions

Objectives:

*1. Given a patient and the proper equipment instill eyedrops, perform an eye irrigation, apply hot and cold compresses to the eye, and apply an eye patch as demonstrated in class.

*2. Given a patient and the proper equipment instill nose drops as demonstrated in class.

*3. Given a patient and the proper equipment, perform an ear irrigation and instill ear drops as demonstrated in class.

*4. Given a patient, the proper equipment, and after practice, perform measures to control a nose bleed as discussed in class.

1. Eyedrops

   a. Secure medication

      (1) Identify drug

      (2) Identify affected eye

      (3) Warm drug to room temperature

   b. Prepare the patient

      (1) Explain the procedure and it's purpose to the patient

      (2) Position the patient (sitting in chair or supine in bed)

      (3) Cleanse any secretions from the eye.

**This Mimeo supersedes M 65-340-025-6, 057.

*Terminal Objective

(4) Instruct the patient to close the eye tightly after installation of drop(s).

c. Instill the drops

(1) Position the head straight, tilted slightly backward

(2) Steady the hand on the patient's forehead

(3) Instruct the patient to look upward

(4) Depress lower lid with finger(s)

(5) Administer eyedrop(s) onto lower lid

(6) Press the inner angle of the eye after the drug in instilled and the eye is closed

(7) Instruct the patient to rotate the eyeball

d. Follow-up

(1) Dry face and eye with tissue

(2) Report patient's tolerance of treatment

(3) Report adverse reactions

2. Eye irrigation

a. Secure medication

(1) Identify drug

(2) Identify affected eye

(3) Warm to room temperature

b. Prepare the patient

(1) Explain the procedure and the purpose to the patient

(2) Position the patient:
Sitting in chair or dorsal recumbent position in bed

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c. Perform the irrigation

(1) Tilt the head toward the affected eye

(2) Place basin at side of the face, to catch overflow

(3) Wash eyelashes and lids with prescribed solution

(4) Evert upper lid

(5) Irrigate from inner corner to outer corner of conjuctival sac

(6) Use only enough force to flush secretions from conjuctiva

(7) Have patient close eyes occasionally

(8) Evert lower lid and repeat steps (5), (6), (7)

d. Follow-up

(1) Dry face and eye with tissue

(2) Report patient's tolerance of treatment

(3) Report adverse reactions

3. Ear irrigation

a. Secure medication

(1) Identify drug

(2) Identify affected ear

(3) Warm drug to body temperature

b. Prepare the patient

(1) Explain the procedure and it's purpose to the patient

(2) Position the patient:
Sitting in chair, or supine in bed

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(3) Cleanse the external opening of the ear

c. Perform the irrigation

(1) Have patient hold basin under ear

(2) Tilt the head toward the affected ear

(3) Angle the ear by grasping auricle

(a) Adult: up and back

(b) Child: down and back

(4) Irrigate the ear - directing the flow toward the side of the external canal wall to prevent injury

(5) Discontinue treatment if pain or dizziness occur

d. Follow-up

(1) Turn head toward affected ear to allow drainage

(2) Provide gauze to wipe ear

(3) Report patient's tolerance of treatment

(4) Report adverse reactions to treatment

4. Ear drops

a. Secure medications

(1) Identify drug

(2) Identify affected ear

(3) Warm drug to body temperature

b. Prepare the patient

(1) Explain the procedure and it's purpose to the patient

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(2) Position the patient:
Sitting in chair or supine in bed

(3) Cleanse the external opening of the ear

(4) Instruct the patient to keep head tilted for 10 minutes after instillation of drop(s) to allow for absorption of medication

c. Instill the drop(s)

(1) Tilt the head with affected ear upward

(2) Angle the ear by grasping auricle

(3) Instill drop(s) onto external ear canal wall

d. Follow-up

(1) Provide tissue to remove drainage

(2) Report patient's tolerance of treatment

(3) Report adverse reactions

5. Measures to control nose bleed

a. Elevate trunk of body

b. Compress soft tissue against septum

c. Instill vasoconstricting drops

d. Postnasal packing

6. Instilling nose drops

a. Secure medication

b. Prepare patient

c. Instill drops

(1) Place patient in the Parkinson position

(2) Direct drops toward anterior position of nose

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(3) Allow time for absorption

d. Follow-up

(1) Provide tissues for absorbing drainage

(2) Report patient's tolerance of treatment

(3) Report effect of treatment

7. Applying hot or cold compresses to the eye

a. Prepare solution and compresses

(1) Iced sterile saline or heated sterile saline as ordered

(2) Observe medical asepsis - use sterile technique as indicated

b. Prepare patient

(1) Explain procedure and its purpose to the patient

(2) Protect linen with towel - position patient

(3) Apply sterile petroleum jelly to the eyelid

c. Applying compresses

(1) Use separate equipment for each eye

(2) Change compresses every 30-60 seconds

(3) Apply for the length of time ordered

d. Follow-up

(1) Provide for comfort

(2) Report patient's tolerance of treatment

(3) Report adverse reactions to treatment

8. Applying an eye patch

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a. Explain procedure and purpose to the patient

b. Apply eye patch

   (1) Instruct patient to close the eye

   (2) Use one or two pads as required

   (3) Secure pad(s) with tape, apply from upper medial corner to lower lateral corner

9. Preparing a mist vaporizer for use

   a. Use only distilled water - refill as required

   b. Place medications ONLY in medicine cup

   c. Caution patient against burns

   d. Observe electrical applicance safety precautions

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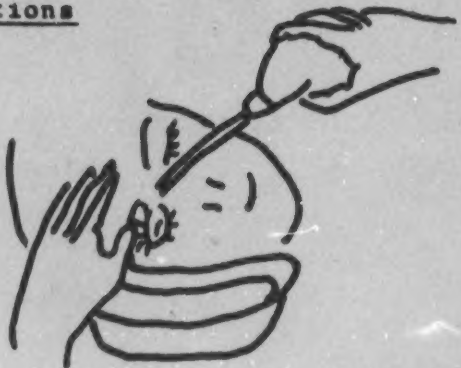
Simple EENT Conditions

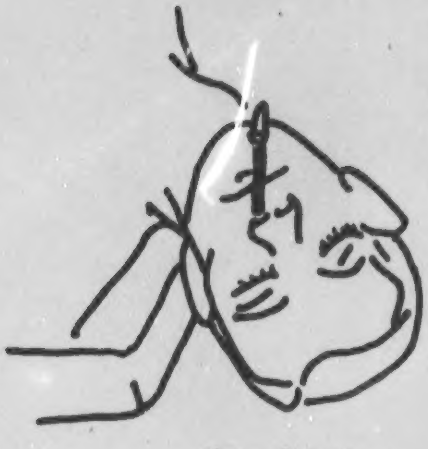
Eye Drops



Eye Irrigation

Eye Pad

Ear Drops
Ear Irrigation



Nose Drops
Parkinson Position

ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
ENLISTED INSTRUCTIONAL BRANCH

*M 65-340-026-1
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Cardiopulmonary Resuscitation

Objectives:

1. Given a list,select the signs and symptoms of a partial or complete airway obstruction as stated in class.
2. Given a list, select in sequential order the steps that are taken to provide an open airway for partial and complete obstruction as stated in class.
3. Given a situation, select when mouth-to-mouth and mouth-to-nose artificial respiration would be the method of choice as stated in class.
4. Given a list of definitions, select the definition of heart attack as stated in class.
5. Given a list, select the five signs and symptoms of a heart attack as stated in class.
6. Given a diagram of the heart and a list of terms, match the terms with the corresponding anatomical structure as stated in class.
7. Given a diagram of the heart, label the flow of blood through the heart as given in class.
8. Given a list, select the definition of cardiac arrest as stated in class.
9. Given a list select five signs of cardiopulmonary arrest as stated in class.
10. Given a list, select the precautions to be taken when performing CPR as stated in class.
11. Given a situation, select the sequential steps in CPR for an adult cardiac arrest victim as stated in class.
12. Given an adult manikin, perform the sequential manual maneuvers to clear an unconscious obstructed airway victim to include: back blows, manual thrust and finger probe as demonstrated in class.

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*This mimeo supersedes M 65-340-026-1, 057

13. Given the proper equipment (simulate a conscious obstructed victim) and after practice, perform the measures to clear an obstructed airway as demonstrated in class.

14. Given the proper equipment (an adult manikin) and after practice perform in sequential order CPR for an adult cardiac arrest victim to include both a one-man and a two-man rescue team as demonstrated in class.

NOTES

A. Airway Obstruction: Inadequate ventilation resulting from blockage of the airway by a foreign object.

1. Types
   - a. Partial - airway not totally obstructed. Some ventilation present.
   - b. Complete - airway is totally obstructed. No ventilation present.
2. Signs and symptoms of obstructed airway
   - a. Partial obstructed airway
     - 1) Universal choking sign
     - 2) Victim struggling to move air in and out of lungs
     - 3) Little movement of chest or abdomen or ventilation
     - 4) Ventilation are noisy. May hear "crowing."
     - 5) Neck muscles may be distended
     - 6) Victim able to speak, usually in whisper
   - b. Complete obstructed airway
     - 1) Universal choking sign
     - 2) Victim struggling to move air in and out of lungs

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3) No movement of chest or abdomen on attempted ventilation

4) No sound heard on attempted ventilation

5) Neck muscles may be distended

6) Victim unable to speak

3. Sequential steps of conscious obstructed airway

   a. Identify airway obstruction. Ask victim "Can you speak?"

   b. Deliver four (4) back blows; sharp forceful blows delivered rapidly to the spine between the shoulder blades, supporting chest with free hand.

   c. Deliver four (4) abdominal thrusts:

      1) Stand behind victim with arms around waist

      2) Grasp one fist over other hand

      3) Place fist between xiphoid and umbilicus

      4) Press fist into abdomen with quick upward thrusts

   d. With obese or pregnant victim use chest thrusts instead of abdominal thrusts

      1) Stand behind victim

      2) Wrap arms under victim's arms to encircle lower chest

      3) Grasp one fist with other hand and place on lower sternum

      4) Press with quick upward thrusts

   e. Alternate four (4) back blows and four (4) abdominal thrusts (chest thrusts if indicated) until respirations restored or victim loses consciousness.

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4. Sequential steps for unconscious obstructed airway

   a. Place in supine position, hyperextend neck to open airway and attempt to ventilate

   b. If unable to ventilate, reposition the neck to open airway and attempt to ventilate

   c. Deliver four (4) back blows

      1) Roll victim toward you

      2) Deliver four (4) back blows to spine between shoulder blades

   d. Deliver four (4) abdominal thrusts

      1) Turn victim to the supine position

      2) Position yourself with knees close to victim's hips

      3) Place heel of one hand between xiphoid and umbilicus, second hand on top

      4) Press into abdomen with four (4) quick upward thrusts

   e. Check for foreign body

      1) Turn victim's head to side away from rescuer

      2) Open mouth with cross-finger technique

      3) Sweep deeply into mouth with hooked finger

   f. Open airway and attempt to ventilate

   g. If unable to ventilate, deliver four (4) back blows

   h. Deliver four (4) chest thrusts

      1) Turn victim to the supine position

      2) Place one hand on either side of victim's lower chest

3) Squeeze with quick downward thrusts of arms and inward thrusts of hands

i. Check for foreign body

j. Open airway and attempt to ventilate

k. Repeat entire procedure until airway is cleared

B. Artificial Respiration

1. Definition: Breathing maintained by artificial means

2. Use of mouth-to-mouth

a. Use under normal conditions

b. Preferred method

c. Steps in procedure

1) Clear airway

2) Hyperextend neck

3) Establish breathlessness: Look, listen and feel for respiration

4) Seal nose

5) Quickly blow four (4) full breaths in the victim's mouth

a) Watch for chest to rise on each ventilation

b) Remove mouth and watch for chest to fall after each breath

6) Repeat cycle every five seconds (12 times per minute)

3. Use of mouth-to-nose

a. Impossible to open victim's mouth

b. Victim has serious injuries to lower jaw

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c. Steps in procedure

1) Establish breathlessness

2) Clamp jaw shut

3) Cover and seal victim's nose with your mouth

4) Blow four (4) full breaths into the nose

5) Watch for victim's chest to rise

6) Allow victim to exhale through mouth

7) Repeat cycle every five seconds (12 times per minute)

C. The Heart

1. Function: The circulation of blood throughout the body

2. Anatomy

NOTE: Refer to drawing at the back of handout

a. Chambers of the heart

1) Right atrium: receives deoxygenated blood from the body (systemic circulation)

2) Right ventricle: receives deoxygenated blood from the right atrium.

3) Left atrium: receives oxygenated blood from the lungs

4) Left ventricle: receives oxygenated blood from the left atrium

b. Major arteries and veins in circulation

1) Vena cava: feeds deoxygenated blood from systemic circulation to right atrium which empties into right ventricle

2) Pulmonary arteries: feed deoxygenated blood from right ventricle to lungs

3) Left and right pulmonary veins: feeds oxygenated blood from lungs into left atrium which empties into left ventricle

4) Aorta: carries oxygenated blood from left ventricle to systemic circulation

5) Heart muscle itself is supplied by coronary arteries

D. Heart Attack

1. Definition: A blockage of the coronary arteries resulting in death of the affected heart muscle

2. Signs and symptoms

   a. Sharp, stabbing substernal pain, radiating down the left arm. Pain may also radiate to neck and jaw.

   b. Apprehension and restlessness

   c. Shortness of breath

   d. Diaphoresis

   e. Nausea and vomiting

E. Cardiac Arrest

1. Definition: The sudden and unexpected cessation of breathing and effective circulation

2. Signs and symptoms

   a. No respiration

   b. No pulse

   c. Dilated pupils

   d. Cyanosis

   e. Lack of extremity movement

3. Clinical death (sudden death): Cessation of breathing and circulation.

4. Biological death: The irreversible damage to cells of the brain, occurring 4-6 minutes after clinical death.

F. Cardiopulmonary Resuscitation (CPR): A combination of effort to maintain effective breathing and circulation by artificial means.

1. CPR - Adult victim

   a. One-man rescue

      1) Establish unresponsiveness: Shake victim and shout "Are you OK?"

      2) Hyperextend neck to open airway

      3) Establish breathlessness: Look, listen and feel for respiration

      4) Give four (4) full, quick breaths

      5) Establish pulselessness: Check for carotid pulse on side nearest you

      6) Kneel close to victim with knees between shoulder and mid-abdomen

      7) Place heel of hand on sternum

         a) Place two fingers over xiphoid

         b) Place palm of hand 2 finger-breadths above xiphoid

         c) Do not remove fingers from xiphoid until heel of hand is correctly positioned on sternum

         d) Place heel of second hand on back of fist

         e) Lock elbows to keep arms rigid

         f) With shoulders directly over sternum exert pressure straight down using weight of upper body

g) Deliver 15 compressions

(1) Depress sternum 1-1/2 - 2 inches

(2) Count aloud: "1 and, 2 and," etc.

h) Hyperextend neck to open airway

i) Give 2 full ventilations, watching for rise and fall of chest after each.

j) Repeat cycle (steps 7a - 7i)

(1) Ratio of 15 compressions: 2 ventilations

(2) Approximately four (4) cycles per minute

k) Check carotid pulse after every fourth cycle

b. Two-man rescue

1) First rescuer checks for unresponsiveness breathlessness, pulselessness and starts CPR with ration 15:2

2) Second rescuer kneels on opposite side of first rescuer

3) Second rescuer states he will take over breathing

4) First rescuer counts compression aloud and continues until cycle of 15 is completed

5) At count of 15, second rescuer gives two (2) full breaths

6) First rescuer again compresses

a) Ratio 5 compression: 1 ventilation

b) Counts aloud: "1-1000, 2-1000," etc.

7) Second rescuer gives one (1) breath at end of each cycle of 5 compressions

8) Change over: first and second rescuers change places without stopping CPR

a) Compressor say "We will change on 3."

(1) Each word: one compression

(2) On next cycle, compressor gives first three compressions of cycle (1-2-3)

(3) Moves to victim's head

b) On word "3", ventilator gives one breath and immediately moves to position for compression

(1) Checks landmarks

(2) Positions hands on sternum properly

(3) Gives 4th and 5th compression of cycle

9) Two rescuers continue CPR switching over as needed

2. CPR-Child victim (2-10 yr old)

a. Establish unresponsiveness

b. Hyperextend neck to open airway

c. Establish breathlessness

d. Give four (4) quick breaths

1) Blow hard enough for chest to rise

2) Over inflation may cause lungs to rupture

e. Establish pulselessness

f. Kneel beside victim

g. Locate middle of sternum

h. Place heel of one hand on middle of sternum

i. Use only one hand

j. Lock elbow to keep arm rigid

k. Exert pressure straight down, depressing sternum 3/4 - 1 1/2 inches

l. Deliver 15 compressions, counting aloud "1-and, 2-and," etc.

m. Hyperextend neck to open airway

n. Give 2 ventilations, watching rise and fall of chest after each

o. Repeat cycle (steps g-n)

   1) Ratio of 15 compressions: 2 ventilations

   2) Compress at ratio of 80-100 compressions per minute, depending on size of child

p. Check carotid pulse every minute

3. CPR - Infant victim

a. Establish unresponsiveness

b. Open airway

   1) Gently extend neck so head drops back slightly

   2) DO NOT hyperextend neck, as this will cause blockage of airway on infant

c. Establish breathlessness

d. Give four (4) quick puffs of air

   1) Seal your mouth over infant's mouth and nose

   2) Puff air gently from cheeks only

   3) Give only enough air to cause infant's chest to rise

e. Establish pulselessness: Place two fingers over left nipple and feel for apical pulse

f. At mid-nipple line, place two fingers over sternum

g. Exert pressure straight down depressing sternum 1/2 - 3/4 inch

h. Deliver 5 compressions: Fingers will remain on chest

i. Give one (1) puff of air watching for rise and fall of chest

j. Repeat cycle (steps g-i)

   1) Ratio of 5 compressions: 1 ventilation

   2) Compress at rate of 100 compressions per minute

k. After one minute check for apical pulse

4. Safety precautions to observe during CPR

   a. Don't interrupt for more than 5 seconds

      1) During intubation--not more than 15 seconds

      2) When moving up and down stairway--not more than 15 seconds

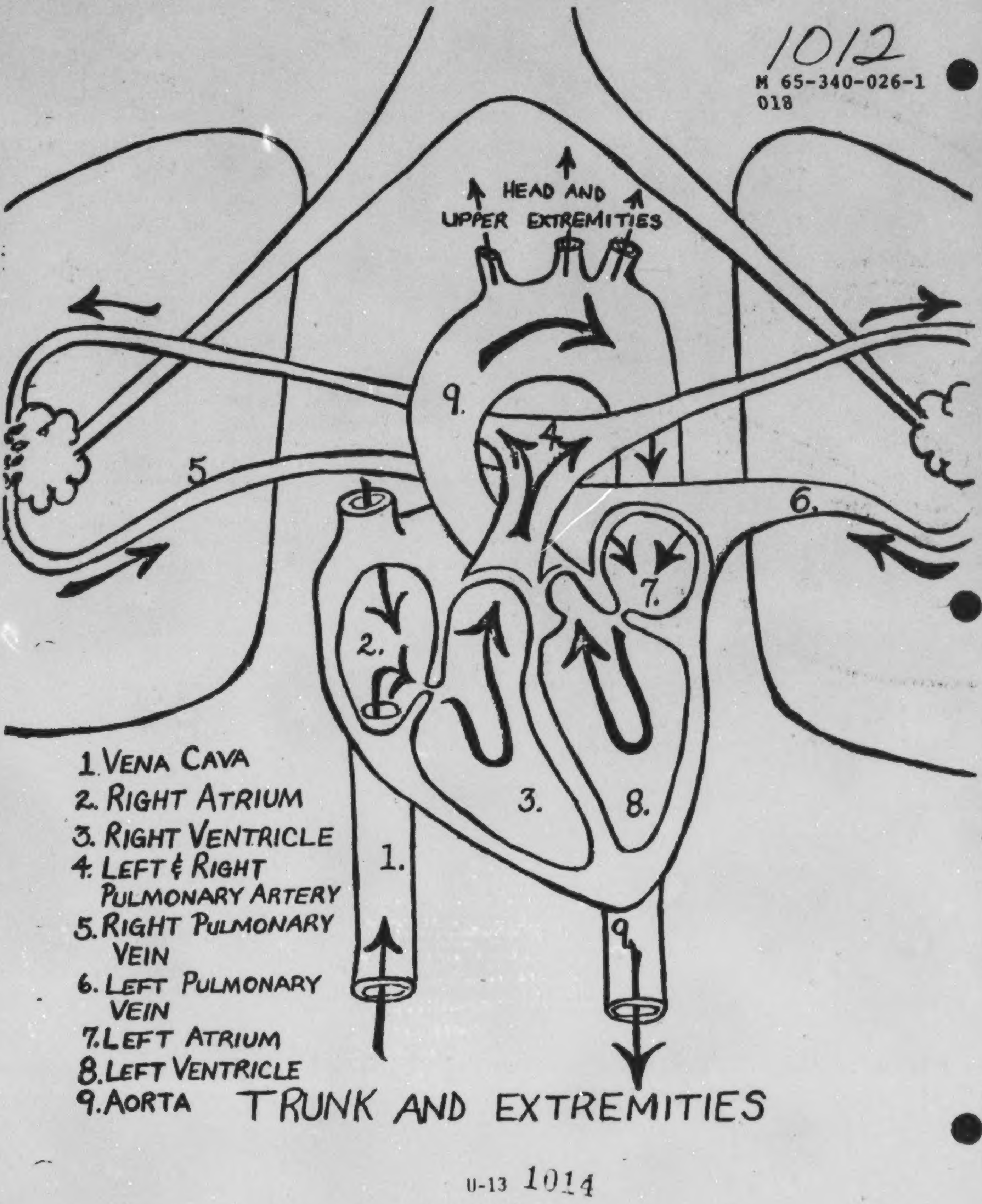
   b. Don't move victim to more convenient place until stable and ready to transport

   c. Never compress over xiphoid process

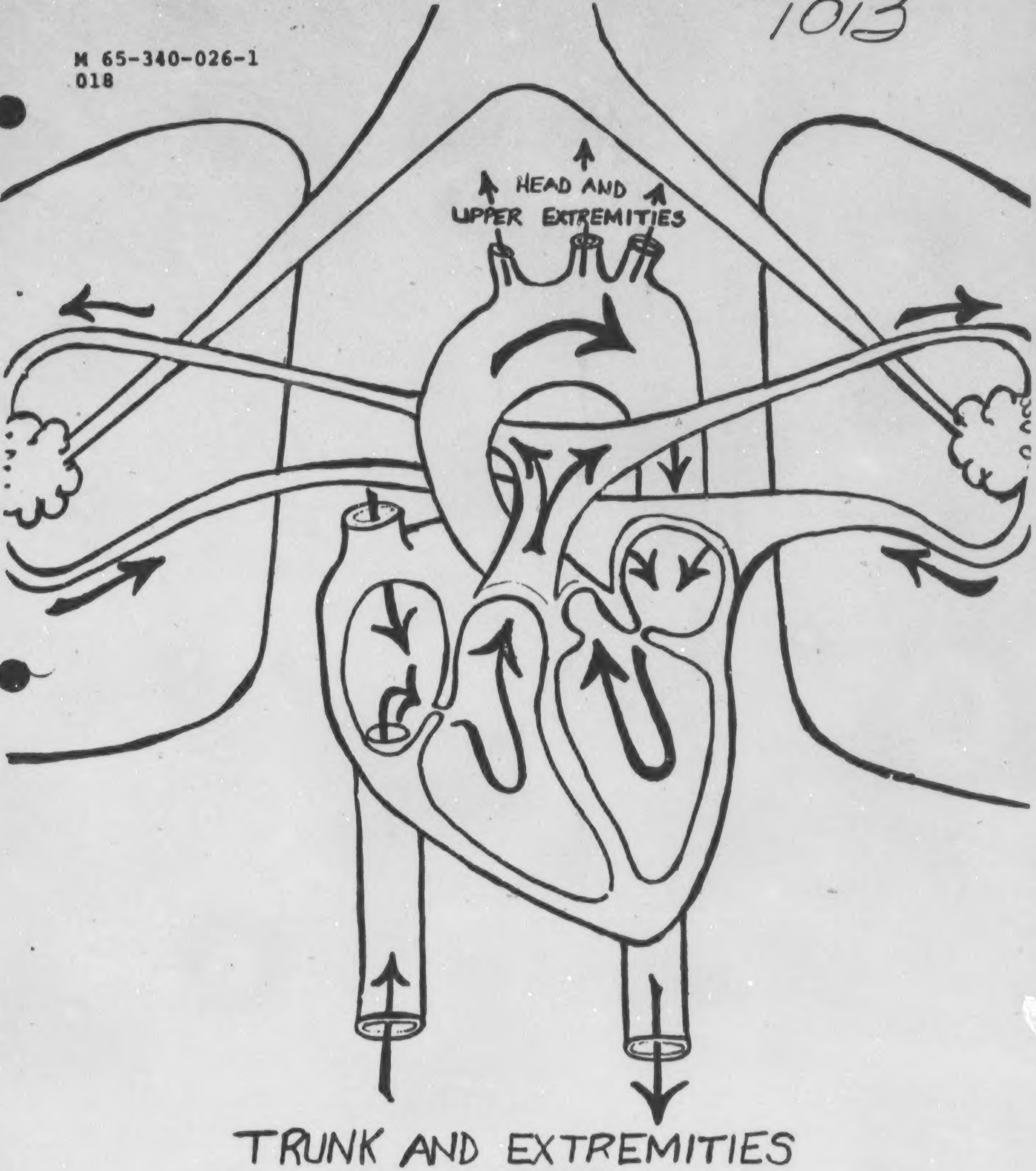
   d. Never remove heel of hand from sternum during compressions

   e. Don't rest fingers on victim's rib during compressions

   f. Avoid sudden or jerking movements


HEAD AND
UPPER EXTREMITIES
9.
4
5
6.
2.
7.
3.
8.
1.
9
TRUNK AND EXTREMITIES

1. VENA CAVA
2. RIGHT ATRIUM
3. RIGHT VENTRICLE
4. LEFT & RIGHT PULMONARY ARTERY
5. RIGHT PULMONARY VEIN
6. LEFT PULMONARY VEIN
7. LEFT ATRIUM
8. LEFT VENTRICLE
9. AORTA


HEAD AND
UPPER EXTREMITIES

TRUNK AND EXTREMITIES

*M 65-340-027-1
018

ACADEMY OF HEALTH SCIENCES
NURSING SCIENCE DIVISION
Enlisted Instructional Branch

Allergic Reactions

OBJECTIVES:

1. Given a list, select the definition of allergic reaction and anaphylactic shock as stated in class.
2. Given a list, select some common causes of allergic reactions, as stated in class.
3. Given a list, select ten (10) signs/symptoms one might see in a patient experiencing an allergic reaction, or anaphylactic shock, as stated in class.
4. Given a list, select the responsibilities of the 91C20 in caring for a patient with an allergic reaction as stated in class.
5. Given a list, select ten (10) major emergency treatment measures a 91C20 might perform or assist with in a patient experiencing anaphylactic shock, as stated in class.

NOTES

A. Definition of Allergic Reaction and Anaphylactic Shock

1. Allergic Reaction: An abnormal and individual hypersensitivity to substances that are ordinarily harmless.
2. Anaphylactic Shock: A generalized, acute, life threatening reaction occurring with dramatic suddenness usually after exposure to or after receiving some foreign substance or agent.

B. Common Causes of Allergic Reactions

1.

2.

3.

4.

This mimeo supersedes M 65-340-027-1, 057

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5.

6.

C. Signs/Symptoms of Allergic Reaction

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

D. Signs/Symptoms of Anaphylactic Shock

1.

2.

a.

b.

c.

d.

3.

4.

5.

6.

7.

8.

9.

10. 1017

E. Responsibilities of 91C20 to Patient

1. Be aware that an allergic reaction can take place almost anywhere in the human body, and its characteristics may range from sneezing, to local edema, to fatal anaphylactic shock.

2. Observation for flushing of the skin (dilated capillaries), puffiness of the face, mouth, and larynx (possible obstructed airway).

3. Stay with the patient in order to decrease anxiety, provide nursing care, and summon help.

4. Be prepared to relieve or lessen the effects of an allergic reaction when systemic reactions appear possible.

F. Ten Major Emergency Treatments for Anaphylactic Shock

1.

2.

3.

4.

5.

6.

7.

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8.

9.

10.

1020

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ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
Enlisted Instructional Branch

Administering Immunizations

OBJECTIVES:

1. Given a list, select two sources of reference where detailed requirements on immunizations are found, as stated in class.
2. Given a list, select the reference which details the proper storage temperature for vaccines as stated in class.
3. Given a list, select the 5 rights and safety precautions to be followed when administering immunizations, as stated in class.
4. Given a list, select three types of reactions that may occur after administration of an immunization as stated in class
5. Given a list, select the proper angle and site of a Subcutaneous (SQ), Intramuscular (IM), and Intradermal (ID),injection as stated in class.
6. Given a diagram, select the proper site of injection for Subcutaneous (SQ), Intramuscular (IM), and Intradermal (ID) injection as stated in class.

*7. Given the proper equipment, and after demonstration administer to an individual an Intramuscular (IM), Subcutaneous (SQ), and Intradermal (ID) injection as stated in class.

*Terminal objective

NOTES

A. Sources of Information

1.

a.

b.

---

*This mimeo supersedes M 65-340-028-1, 057

/020

c.

2.

a.

b.

c.

1)

a)

b)

2)

a)

b)

B. Five Rights of Administering Immunizations

1.

2.

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3.

4.

5.

C. Safety Precautions

1.

a.

b.

c.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

D. Three Types of Reactions that Can Occur

1. Allergic

a.

b.

c.

1)

2)

d.

1)

2)

3)

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4)

2. General

a. Local (at site of injection)

1)

2)

3)

b. Systemic

1)

2)

3)

4)

5)

3. Infection

a.

1)

2)

1024

b.

1)

2)

E. Types, Angles, and Sites of Injection

1. Intramuscular: Into muscle tissue

a. Angle

b. Sites of injection

1)

2)

3)

2. Subcutaneous: Into connective tissue

a. Angle

b. Sites of injection

1)

2)

3)

1026

4)

5)

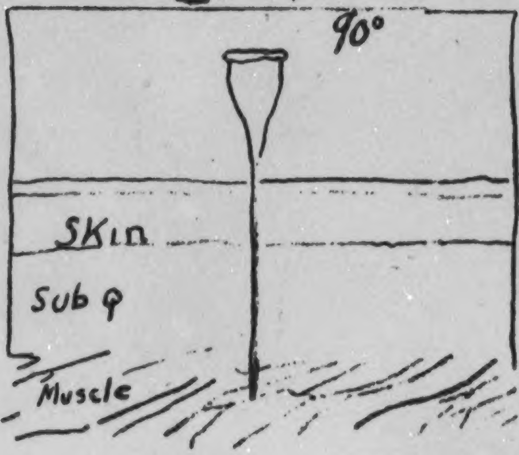
3. Intradermal: Into top layer of skin
    - a. Angle
    - b. Site of injection

F. Jet Hypodermic Injection Apparatus Automatic (Injection Gun)

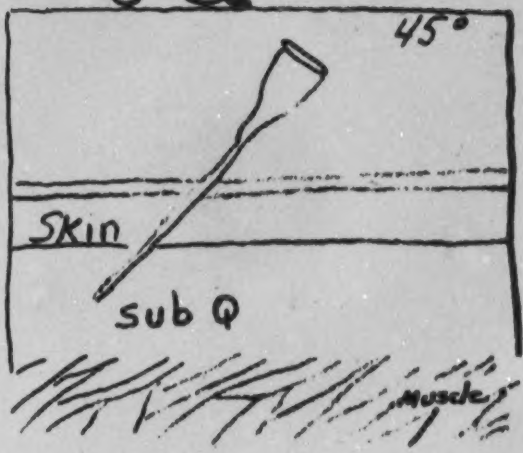
1. Used by
2. Use
3. Advantage
    - a.
    - b.
    - c.
4. Safety Precautions
    - a.
    - b.
    - c.
    - d.

Angles of Injections

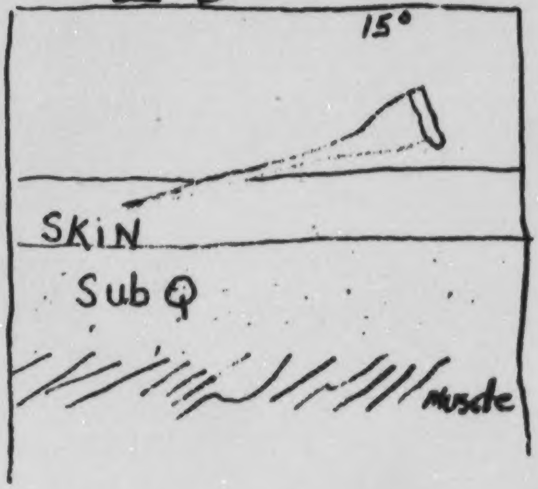
IM


90°
Skin
Sub Q
Muscle

SQ


45°
Skin
Sub Q
Muscle

ID


15°
SKiN
Sub Q
Muscle

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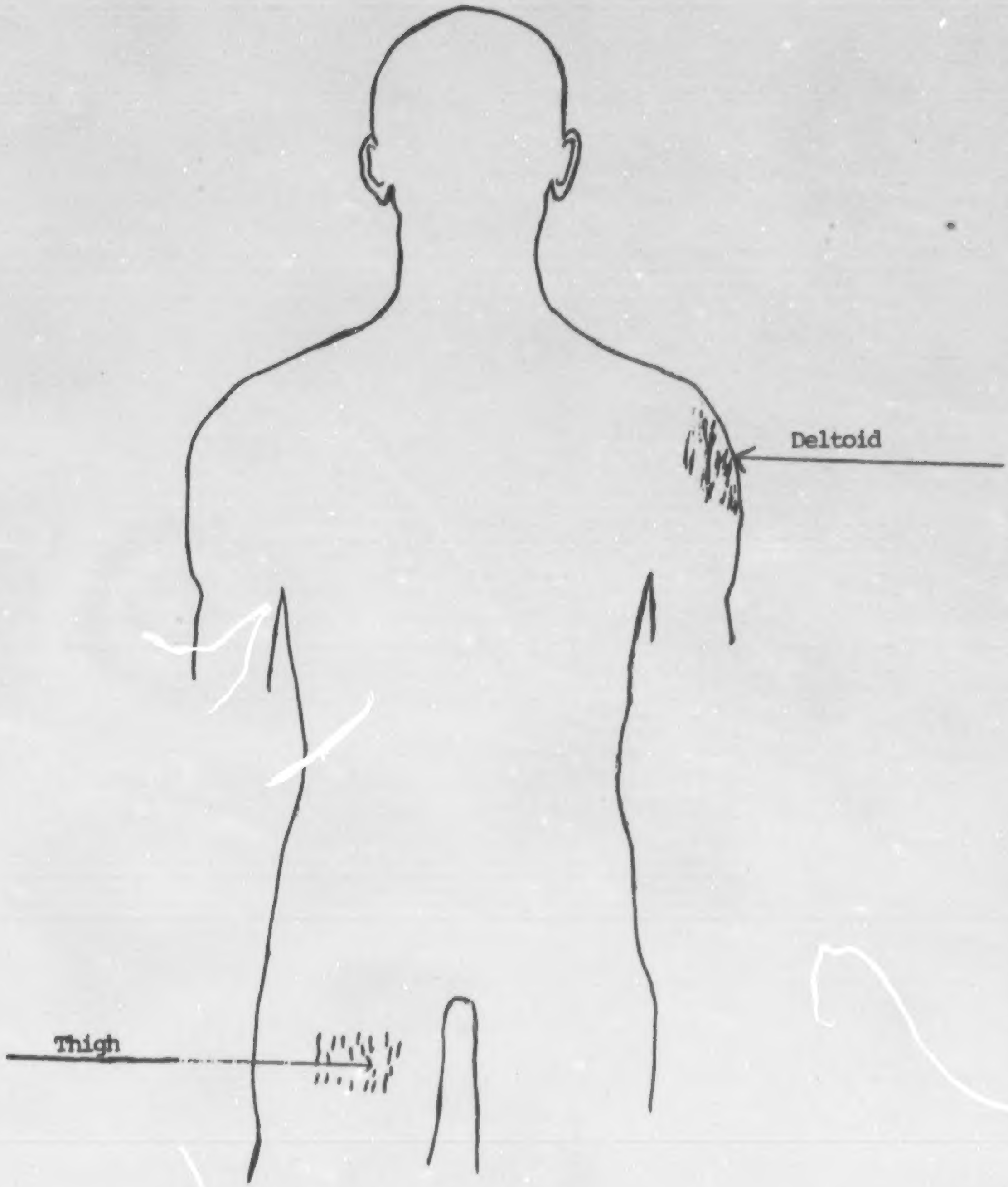
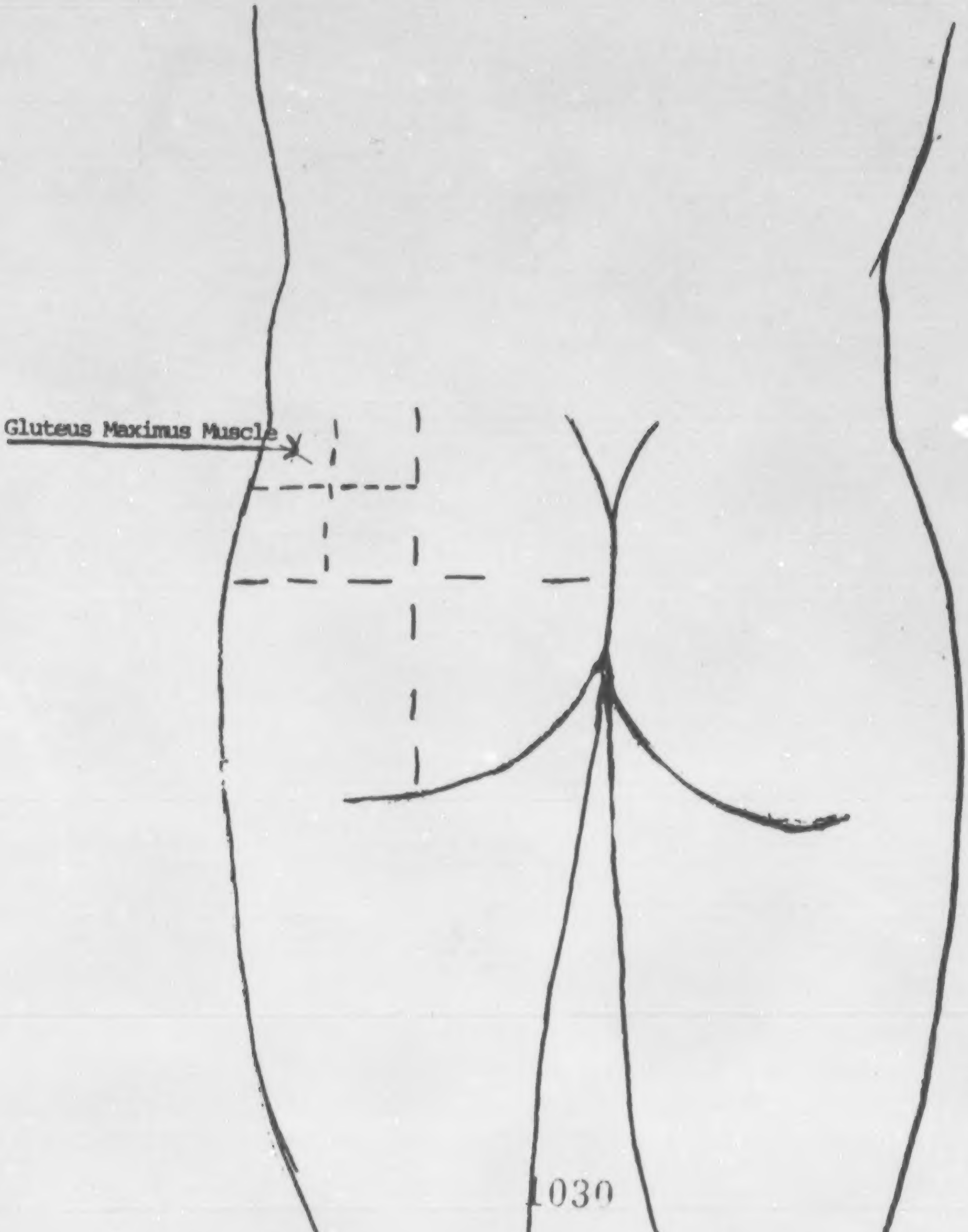
IM Injection Sites


Deltoid
Thigh

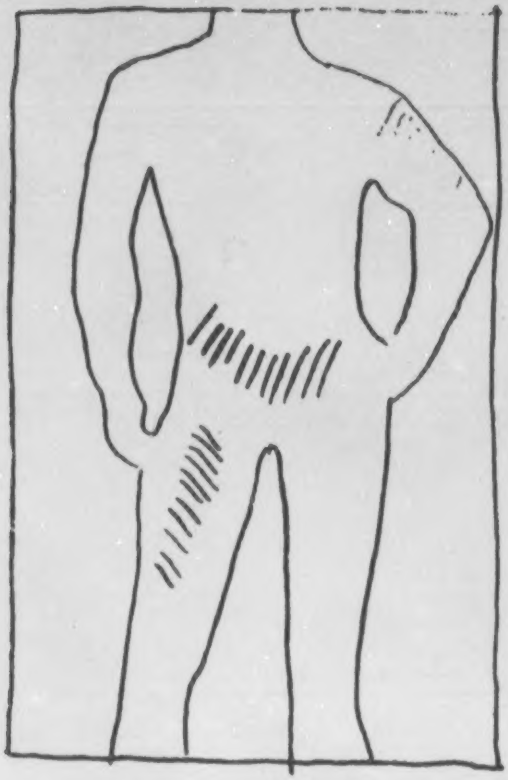
1028

IM Injection Site

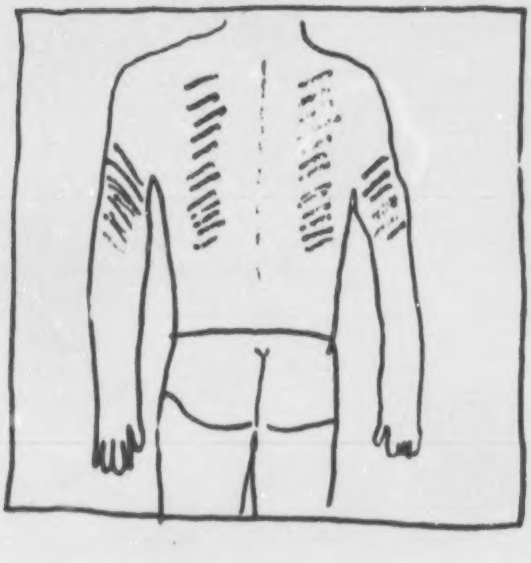

Gluteus Maximus Muscle

SITES OF

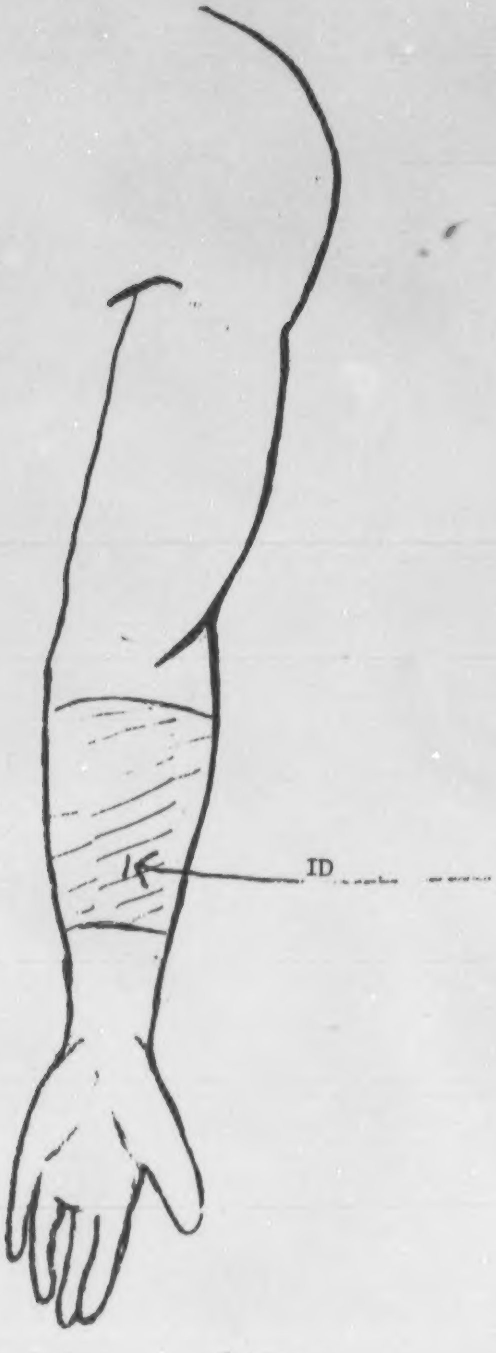
INJECTION



SUB-Q



Intradermal Injection Site



ACADEMY OF HEALTH SCIENCES, USA
NURSING SCIENCE DIVISION
Enlisted Instructional Branch

Administering Immunizations

OBJECTIVE:

Given the proper equipment, and after demonstration administer to an individual an Intramuscular (IM), Subcutaneous (SQ), and Intradermal (ID) injection, as stated in class.

A. Intramuscular Injection

1. Check Doctors orders if on ward
2. Wash hands
3. Identify patient
4. Explain procedure to patient
5. Using medication card (DA-8-244) or Immunization Record (PHS 73), determine medication needed. Obtain medication required making proper checks.
6. Obtain proper syringe with proper needle
7. Remove syringe from package using aseptic technique
8. Holding syringe in one hand, pick up needle
9. Remove cap and place needle on syringe using sterile technique
10. Set syringe down
11. Check medication, 3 times
12. Preparation for drawing up medication
    a. Ampule
        1. Pick up ampule
        2. Take alcohol pad and wrap around neck of ampule pushing away from yourself causing it to break
    b. Vial
        1. Take alcohol pad and clean surface of rubber stopper using aseptic procedure

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*This mimeo supersedes M 65-340-028-2, 057

13. Pick up syringe, remove cover on needle and hold in fingers. Pick up medication and draw up .2cc's.

    a. Ampule

        1. Insert needle into ampule without touching outside or sides of ampule.

        2. Withdraw needle when desired amount drawn up

    b. Vial

        1. Push needle in center of rubber stopper

        2. Withdraw needle when desired amount is drawn up

14. Set vial/ampule down. Tap syringe gently to remove all air bubbles. Replace cap over needle.

15. Have patient remove shirt

16. Prepare injection site with alcohol pad

17. Remove needle cover

18. Place thumb and fore finger over area and squeeze area causing injection area to rise.

19. Swiftly thrust needle straight into tissue at 90° angle. Do not remove hand from syringe.

20. Aspirate syringe to see if blood appears. If blood appears withdraw the needle slightly and test again.

21. If no blood is evident, inject solution slowly

22. Withdraw needle quickly covering site with alcohol prep pad

23. Massage area of injection

24. Clean up work area

25. Destroy needle and syringe properly

26. If medication is in multi-dose vial, mark date, time and amount used on label and place in refrigerator

27. Properly acknowledge and record immunization on proper forms

B. Subcutaneous Injection

1. Steps 1-17 same as IM injection. Exception: Obtain correct syringe with needle. (Uually a 3cc syringe with 23-25 gauge needle).

18. Swiftly thrust needle at 45^{0} angle into prepared area

19. Follow steps 19-27 of IM injection for remainder of procedure

C. Intradermal Injection

1. Steps 1-14 same as IM injection. Exception: Obtain correct syringe with needle (always 1cc syringe with a 25-26 gauge needle)

15. Have patient roll sleeve up

16. Prepare injection area (intra aspect of forearm)

17. Remove cover on needle

18. Inject needle just under outer layer of skin at a 15^{0} angle with bevel up. Inject medication slowly. A wheal should be evident.

19. Remove needle quickly covering site with alcohol pad. Do not massage area.

20. Have patient roll sleeve back down

21. Follow steps 24-27 same as IM injection for remainder of procedure

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ANNEX M

APPLICATORY TRAINING FOR

CLINICAL SPECIALIST (Primary Technical) COURSE 300-91C20

1. This annex contains samples and instructions for conducting the applicatory phase of the Clinical Specialist (Primary Technical) Course 300-91C20. It is intended to assist educational coordinators and training supervisors in the establishment of an effective program at Phase II training sites.

2. In order to successfully complete the 16 weeks of training the student must demonstrate proficiency in Basic Nursing Care procedures.

a. During the 4 weeks of Phase I training the student performs basic nursing care procedures under direct supervision.

b. During Phase II (12 weeks) the student will perform procedures learned in Phase I on actual patients.

3. Individuals involved with training students should familiarize themselves with this guide in order to provide uniformity in training and evaluation of students.

4. To avoid a misunderstanding of the 91C20's capabilities the POI should be reviewed by all personnel tasked with supervision of 91C20 students.

APPENDICES:
- I. Sample Master Rotation Schedule
- II. Experience Checklist
- III. Procedure Checklist (not used)
- IV. Evaluation Record
- V. Weekly Schedule (not used)
- VI. Unit Orientation Program
- VII. Reading and Study Assignments (not used)

SAMPLE MASTER ROTATION SCHEDULE

Class No:__________300-91C20 Course

	WEEK											
Name	1	2	3	4	5	6	7	8	9	10	11	12
Student A	Med	Med	Med	Med	Surg	Surg	Surg	Surg	Rec Room	Surg Clinic	TMC OPD	ER
Student B	Surg	Surg	Surg	Surg	Rec Room	Surg Clinic	TMC OPD	ER	Med	Med	Med	Med
Student C	Rec Room	Surg Clinic	TMC OPD	ER	Med	Med	Med	Med	Surg	Surg	Surg	Surg

1. This rotation may be accomplished in any order but must include:

   a. Four weeks on surgical unit

   b. Four weeks on medical unit

   C. Four weeks on special units:

      (1) One week Recovery Room

      (2) One week Surgical Clinic

      (3) One week TMC or OPD

      (4) One week Emergency Room

2. The students will normally be assigned the day shift Monday through Friday. The last week of the surgical and medical rotation the student may be assigned the evening shift. In special units students will be assigned the day shift except the emergency room where they may be assigned the evening shift if there are better learning experiences.

3. At NO time will the student be assigned without supervision.

CLINICAL SPECIALIST
U S

APPENDIX II to
Annex M

EXPERIENCE
CHECKLIST

Name____________________

Class No________________

Clinical Specialist Course
(Primary Technical)

Instructions for Experience Checklist

1. Each student will carry an Experience Checklist and be responsible for obtaining initials of the Nurse/Wardmaster in the appropriate block (satisfactory/unsatisfactory).

2. Each Nurse/Wardmaster will initial the Experience Checklist in the appropriate block (satisfactory/unsatisfactory).

3. An unsatisfactory performance by the student requires a reteach and retest. Upon successful accomplishment of the procedure initials will be placed in the satisfactory column. There may be initials in both blocks. Repeated unsatisfactory performance will be reported to the Educational Coordinator who will determine whether to reteach and retest again or to recommend the elimination of the student from the course.

4. After review for final grade the Educational Coordinator will return the Experience Checklist to the student or destroy the Experience Checklist.

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	SATIS-FACTORY	UNSATIS-FACTORY
I. HOSPITAL MEDICAL FORMS		
A. Inpatient Identaplate		
B. Kardex		
1. Make entry on Nursing Notes (DA4336)		
2. Record data on TPR Graphic (SF 511)		
C. Intake and Output (I&O)		
1. Record on I&O Worksheet (DA3603)		
2. Record on TPR Graphic (SF 511)		
D. Disposition of Patient Record		
II. ACTIVITIES OF DAILY LIVING (ADL)		
A. Bedbath		
B. Skin care		
C. Back rub		
D. Oral hygiene (denture included)		
E. Fingernail care		
F. Hair grooming		
G. Hair shampooing		
H. Perineal care		
I. Toilet		
1. Bedpan		
2. Fracture pan		
3. Bedside commode		
4. Urinal		
J. Serving the diet tray		
K. Feeding the patient		

	SATIS-FACTORY	UNSATIS-FACTORY
L. Active range of motion (AROM)		
M. Passive range of motion (PROM)		
N. Positioning patient		
1. Semi-fowlers		
2. Sims		
3. Prone		
4. Orthopnic		
O. Correct body alignment		
P. Ambulate a patient		
III. PATIENT SAFETY		
A. Use of side rails		
B. Transfer technique		
1. Move patient from bed to litter and return to bed		
2. Move patient from bed to wheelchair and return to bed		
3. Transfer on litter		
C. Call bell		
D. Assess patient care for safety hazards		
E. Fire drill procedure		
F. Restraints		
1. Posey		
2. Leather web		
3. Sheet		
G. Body mechanics		

	SATIS-FACTORY	UNSATIS-FACTORY
H. I.V. Therapy		
1. Care of equipment		
2. Observation for phlebitis, infection or infiltration		
I. Oxygen safety		
J. Safety straps with wheelchair and litter		
IV. PATIENT CARE PROCEDURES		
A. Vital signs		
1. Temperature		
a. Oral		
b. Rectal		
c. Axillary		
2. Pulse		
a. Radial		
b. Apical		
c. Pedal		
3. Respirations		
4. Blood pressure		
B. Weight		
1. Standing scale		
2. Bedside scale		
C. Height		
D. Urinary catheterization		
1. Indwelling catheter		
2. Straight catheter		
E. Male external catheter		

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	SATIS-FACTORY	UNSATIS-FACTORY
F. Indwelling catheter care		
G. Closed urinary bladder irrigation		
H. Venipuncture		
1. Vaccutainer		
2. Syringe		
3. Disposal of needle and syringe		
I. Urine Clinitest and Acetest		
J. Specific gravity of urine		
K. Test for occult blood (Guaiac)		
L. Patient preparation for diagnostic procedures		
1. Upper GI Series		
2. Barium Enema		
3. Gall Bladder Series		
4. IVP		
M. Nasogastric Tube		
1. Insert		
2. Feeding		
3. Irrigate		
4. Connect to Gomco		
N. Cleansing Enema		
O. Retention enema		
P. Irrigate colostomy		
Q. Oxygen therapy		
1. Nasal prongs		
2. Venturi mask		

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	SATIS-FACTORY	UNSATIS-FACTORY
3. Non-rebreathing mask		
4. Simple mask		
5. Wall oxygen unit		
6. Oxygen tank		
R. Set up isolette for use/check oxygen content		
S. Set up Croup Tent		
T. Postural drainage		
U. Hot and cold applications		
1. Cooling sponge bath		
2. K-pad		
3. Warm moist soaks		
4 Heat lamp		
5. Hot water bottle		
6. Chemical pack		
7. Eye compresses		
8. Ice bag		
V. Suctioning		
1. Endotracheal tube		
2. Oral		
3. Nasal		
4. Tracheostomy tube		
W. Routine tracheostomy care		
X. Closed chest drainage		
1. Emerson suction		

	SATIS-FACTORY	UNSATIS-FACTORY
2. Water sealed drainage		
3. Care of equipment		
4. Safety precautions		
Y. Apply anti-embolism stockings		
Z. Patient in a cast		
1. Wet		
2. Dry		
3. Remove cast		
4. Remove splint		
5. Exercising limb in a cast		
6. Check for impaired circulation		
AA. Turn patient on a turning frame		
BB. Crutch walking		
1. Measure patient for crutches		
2. Teach patient crutch walking		
CC. Traction care		
1. Skin		
2. Skeletal		
DD. Apply Buck's traction		
EE. Bandage amputee's stump		
FF. Prepare and utilize Surgical Checklist for patient going to surgery		
GG. Turn, cough, deep breathe		
HH. Blow bottles		
II. Observation for postoperative complications		

	SATIS-FACTORY	UNSATIS-FACTORY
JJ. Admit patient to ward		
KK. Discharge patient from hospital		
V. ASEPSIS		
A. Handwashing		
B. Gowning technique		
C. Masking technique		
D. Gloving technique		
E. Isolation unit		
1. Set-up		
2. Entering and leaving unit		
3. Care of equipment		
4. Care of needles and syringes		
5. Care of linen		
6. Double bagging technique		
7. Care of diet tray		
8. Patient and visitor teaching		
F. Maintenance of reverse isolation		
G. Prepare an open wound for operative treatment		
H. Assist with sterile procedures		
1. Open a sterile pack		
2. Set up a sterile field		
3. Open a syringe		
4. Pour a sterile liquid		
5. Withdraw from a multidose vial		

	SATISFACTORY	UNSATISFACTORY
VI. RESUSCITATIVE MEASURES		
A. Check emergency cart for completeness		
B. Locate anaphylactic tray		
C. Heimlich maneuver		
D. Artificial respiration		
E. External cardiac massage		
F. Infant resuscitation		
G. Ambu bag		
VII. ADMINISTRATION OF IMMUNIZATIONS		
A. Sub Q		
B. IM		
C. Intradermal		
VIII. SPECIMEN COLLECTION		
A. Routine urinalysis		
B. Urine for C & S		
C. Routine sputum		
D. Sputum specimen by suctioning		
E. Stool culture		
F. Wound culture		
G. Throat culture		
H. Disposition of specimens		
IX. TERMINAL CLEANING OF PATIENT UNIT		

nel elect Army service as a career, and not all are in the type of work that is their primary choice. The number of people involved in providing patient care on a 24-hour, 7-day-week basis creates problems of communication and understanding. Good relations are easier to describe than to achieve, and there are few never-fail formulas that apply in all situations. Some guidance can be given, however, as a means of developing good interpersonal relations—

a. Understanding Oneself. The foundation for good relations with others is a state of good relations with oneself. Self-understanding and self-acceptance based on a realistic picture of oneself and a genuine feeling of self-worth which is justified by performance should not be confused with smugness; they are ingredients of an effective relationship with others. Just as each is a unique person, each must accept the right of another person to differ within socially sanctioned limits. Thus in any instance in which relationships are less than the best, each person must first look to himself to see if he has contributed to the faulty relations.

b. Understanding the Line of Authority. Each member of the patient care team should clearly understand his responsibilities and authority. He should observe the prescribed organizational relationships both in accomplishing his own assignment and in assisting others. Each person functions most effectively when he works within the limitations prescribed for him.

c. Understanding the Need for Orientation of Patients. Since most inpatients and many outpatients experience a distinct feeling of a loss of control over what is happening to them, all medical service personnel who come into face-to-face contact with patients should be considerate of them. They need kindness, sympathy, and simple courtesy, as well as technical competence. In fact, it is their right to receive competent care cheerfully given. If they know what to expect from medical service personnel and what the medical organization expects of them, they will be less apt to become apprehensive, critical, or demanding. Orientation is essential for cooperation.

1–19. Summary

A more extensive review of accepted principles of human behavior and additional guidance for developing good relationships among hospital personnel and patients are provided in DA Pam 8–13. In essence, however, interpersonal relations must be considered as part of a continuing program of learning how to get along with *people*, people who are patients and people who work in the hospital.

Section IV. LEGAL ASPECTS OF MEDICAL CARE AND TREATMENT

1–20. General

a. Legal aspects of medical care and treatment are covered briefly here in order to alert Army Medical Department enlisted personnel who will be assigned to patient care duties involving medical and nursing activities to the importance of law as it pertains to the provision of medical care and treatment. Since this is a broad topic, this discussion is limited to introductory information concerning: (1) the legal status of a medical service patient care team member; (2) some medical-legal problems that arise when, in the course of assisting with medical care and treatment, something is done that interferes with the rights and privileges of a patient; (3) professional practices acts; and (4) the Federal Torts Claim Act (FTCA).

b. The public has special trust and confidence in medicine and allied professions and in the institutions and organizations that provide medical care and treatment. Since laws are written primarily to safeguard the public welfare, those that apply to the provision of medical services have special significance. The fact that incompetence in the provision of medical services could result in the loss of health or even of life is recognized.

c. Law can be defined as a rule of conduct pronounced by a controlling authority which may be enforced by means and remedies provided by the law. Three distinguishing characteristics of a law are—(1) someone or some agency has the authority or right to declare a rule exists, (2) the rule pronounced and its source can be identified, and (3) a right to enforce the law is provided.

1–21. Law and the Medical Soldier

a. Enlisted personnel have been instructed on their legal status as a soldier in FM 21–13, and have been reminded that they are subject to and protected by both civilian and military law. They have been reminded also that, although they do not have to know all the details of military law to be a law-abiding solider, they do have to be informed of those portions of the Uniform Code of Military Justice which govern their conduct as soldiers.

b. The medical soldier is authorized to perform his military-medical duties under the conditions established for the performance of those duties. His legal protection and legal status are established when he works: (1) within the scope of his duties, as defined by AR 611-201; (2) within the limits of his training; and (3) in accordance with the policies established for the performance of his duties by his local medical commanding officer. Army regulations (AR's) that pertain to the provision of medical services in Army Medical Department treatment facilities are the AR 40-series.

c. Under the provisions of AR 40-1, the duties and responsibilities of *professionally* qualified personnel assigned to Army Medical Department facilities are defined. The range of duties within the enlisted MOS includes activities that are universally accepted as professional medical and nursing acts. *For example*, any activity involving remedial treatment of a patient is a medical act and many nursing activities are conditioned or dependent upon the order and direction of a physician. The practice of medicine is strictly controlled by licensure, but medical practice acts also permit *delegation* of certain *medical activities* providing certain conditions are met. The legal right to perform acts defined as medical acts is conditioned upon (1) training and skill, which give the ability to understand the cause and effect of the act performed; (2) the act being performed on the order of a physician; and (3) the direction and supervision of the act remaining the responsibility of the physician. Examples of specific medical acts in the range of duties perscribed for MOS 91B and 91C are administering intravenous fluids, administering drugs, and catheterizing the urinary bladder. Since these same duties performed by a professional nurse are still medical practice acts, the professional nurse's right to perform these duties is also conditioned by the order, direction, or supervision of a physician. In general, remember that *diagnosing*, *prescribing*, and *treating* are medical acts.

d. Nursing functions and activities that medical specialists will be responsible for are even more difficult to summarize than medical functions. Examples of established nursing functions that a *nonprofessional* performing a nursing function will be expected to do include—

(1) Environmental and physical management of the patient, providing suitable surroundings and personal hygienic measures for safety and comfort.

(2) Factual observation, reporting, and recording of physical signs and symptoms.

(3) Performance of selected clinical nursing procedures, with an understanding of cause and effect, in support of medical orders.

(4) Assistance in medical examinations, treatments, and diagnostic tests and procedures under the direction and supervision of the medical officer.

e. Medical specialists are subject to assignment to Army Medical Department treatment facilities to carry out nursing activities in units that function without assigned nurses. Under the Medical Department Activity (MEDDAC) concept, the Chief, Department of Nursing/Nursing Service of the medical treatment facility is responsible for the nursing services required to support the various medical treatment programs. It is through this channel that the medical specialist has access to nursing supervision, consultation, and guidance.

1-22. Negligence as a Medical-Legal Problem

a. There is no one uniform code of medical law, but there are laws that have special significance in medical care and treatment areas. A basic rule of law that applies in the provision of all medical services is the *rule of negligence*. Every one, military and civilian, professional and nonprofessional, has an absolute duty to conduct himself and his property so as to avoid injury to the person or property of others. Although the spirit of service to others is a key principle in the performance of all medical duties, there are responsibilities that extend beyond being kind and thoughtful in the provision of services. When services are provided, there is *an obligation to use due care* to be sure that the patient is not injured by negligence, which can be defined simply as failure to exercise due care in relation to a person to whom care is due. A more complicated legal definition of negligence is the doing or failure to do the act, pursuant to a duty, that a reasonable person in the same or similar circumstances would or would not do and the acting or nonacting is the proximate cause of injury to another person or to his property.

b. The law holds every individual responsible for his own acts of negligence. Negligence is commonly held to be an unintentional injury, but once an act has been performed and injury results, the performance of the act and the consequence of the act are facts. Thus, negligence is one of the most common causes for law suits against hospitals and hospital personnel. Examples of negligence include injuries caused by use of faulty equipment, burns from applications of hot water bottles and other heating devices, medication errors, falling out of bed, and careless handling of sponges and instruments in operating rooms.

c. The law of negligence applies in almost all medical-legal problems that arise when, in the course of medical treatment, something is done that interferes with the rights and privileges of a patient. However, under our form of government there is legal recognition of unforeseeable, unavoidable, or inevitable accidents. Responsible authority provides for investigation to establish the facts of an accident or incident, and the facts are usually obtained when five questions are asked: when? where? who? what? how? These questions are not asked to establish guilt or innocence but to establish the facts on which a legal decision can be made.

d. Personnel assigned to an Army Medical Department treatment facility should all know that there is a special form (DA Form 8-249, Report of Unusual Occurrence) to be completed whenever a patient is involved in an accident that may or may not have caused injury.

(1) The responsible individual in charge of the ward or area completes DA Form 8-249 whenever a patient is involved in an unusual occurrence or accident. The accident and circumstances should be described in detail for the protection of the patient and the hospital staff.

(2) The medical officer, ward officer, or appropriate medical officer of the day (MOD) must be notified immediately. Local policy will govern who is to receive the report; this is usually the hospital commander, but it may be the administrative officer of the day (AOD), chief of the clinical service, chief nurse, or appropriate nurse supervisor. When indicated, the original of the report is then filed with the patient's permanent clinical record.

1-23. Professional Practice Acts

a. Professional practice acts are laws that control the practice of legally recognized professions. The purpose of these acts is to protect the public from persons unqualified to practice. In general, professional practice acts (1) define the profession; (2) provide standards that control the preparation for practice; (3) provide for licensure; and (4) through licensure, define by law who shall be licensed to practice and under what terms. A license is a legal document that permits a person to offer to the public his skills or knowledges in a field where such practice would otherwise be unlawful without a license. Licensure provides for rights and responsibilities, and thus a major responsibility of a person licensed to practice a profession is that this person must act with the skill and care normally expected of a person claiming professional competence.

b. There is no uniform Federal professional practice act, so requirements for licensure under professional practice acts vary from State to State. This is because, under the Constitution, each State is responsible for passing its own laws regulating the control of professions, trades, and occupations.

c. A question often asked is—What is the legal status of graduates of the Army Medical Department course for clinical specialists, MOS 91C20? At the present time, licensure as a practical nurse is not essential to effective performance of duty as a clinical specialist in Army Medical Department facilities. Some States accept graduates of the course for examination for licensure as a practical nurse, so there is civilian legal recognition of the special skills and training of the clinical specialist. Licensure is also a benefit to the individual as a private person. One desired goal is that each school conducting the Clinical Specialist Course will be accredited by the appropriate State licensure board for practical or vocational nurses. This goal agrees with the aims of the Army Classification System, providing that, at the same time, the manpower requirements of the Army are met.

1--24. The Federal Torts Claim Act

a. The Federal Torts Claim Act (FTCA) became effective in the United States in 1946. The FTCA permits legal action against the Federal Government on damage claims "for injury or loss of property, or personal injury or death caused by the negligent or wrongful act or omission of any employee of the government while acting within the scope of his office or employment, under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred." The phrase "employee of the Government" includes members of the military forces, while "scope of his office or employment" for military forces is defined to mean acting in line of duty. The term "tort" used in the title of the act is a legal term for a private wrong for which a court of law will award a remedy of damages. An example of a tort is negligence.

b. The FTCA specifically *excluded* certain claims for negligence. Among these exclusions are the following:

(1) Claims arising from combat activity of military forces during war.

(2) Claims arising in a foreign country.

(3) Claims arising from the exercise of discretionary functions relating to policy or interpretation.

(4) Claims arising from service-connected injuries. However, relatives of service men can sue for their own injuries.

(5) Claims arising from activities during disaster situations.

c. In the FTCA, the Federal Government consents to liability for the negligence of its employees when committed in the course of their employment with certain exceptions, some of which are listed in *b* above. FTCA is based upon the rule of law, "respondeat superior" or "let the master answer." However, this rule does not absolve the employee from liability. It simply permits the injured party to sue both the employer and the employee on the basis that a distinguishing characteristic of an employer-employee relationship is the retention by *the employer of control over the employee's activities.*

d. Military personnel who are sued individually or jointly with the United States will have their defense arranged through regular channels provided by the Office of the Judge Advocate General. All reports are made in accordance with Army regulations and are submitted to the Department of the Army. All claims are handled through authorized military legal channels.

e. The fact that a patient can or cannot sue the Government for injuries resulting from negligence should have no bearing on the quality of care he receives. High standards of care are the right of the patient and an obligation of the Army Medical Department. This policy implies both legal and ethical responsibility.

Table 2-4. Functions of the Autonomic Nervous System

Increased sympathetic tone results in—	Increased parasympathetic tone results in—
1. Dilation of pupils.	1. Contraction of pupils.
2. Decreased tones of ciliary muscles, so that the eyes are accommodated to see distant objects.	2. Contraction of ciliary muscles, so that the eyes are accommodated to see objects near at hand.
3. Dilation of bronchial tubes.	3. Contraction of bronchial tubes.
4. Quickened and strengthened heart action.	4. Slowed heart action.
5. Contraction of blood vessels of the skin and viscera so that more blood goes to the muscles where it is needed for "fight or flight."	5. Dilation of blood vessels.
6. Relaxation of gastrointestinal tract and bladder.	6. Increased contractions of gastrointestinal tract and muscle tone of bladder.
7. Decreased secretions of glands (except sweat glands which secrete more).	7. Increased secretions of glands (except sweat glands).
8. Contraction of sphincters which prevents emptying of bowels and bladder.	8. Relaxation of sphincters which allows emptying of bowels or bladder.

transmitted by the olfactory nerve to the temporal lobe of the brain. Although olfactory receptor cells are quite sensitive, they can also become fatigued, and odors that at first may be very noticeable may be less so upon continued exposure. Smell is considered a primitive sense and the detection of odors is more highly developed in animals than in man.

b. Taste. Sense organs for taste are taste buds located in the surface of the tongue. The primary taste sensations are sweet, sour, salty and bitter. The actual sensation of taste, particularly for distinctive flavors, is influenced by the sense of smell. Taste sensation is usually dulled when nasal membranes are congested or when the nostrils are pinched shut while eating foods. Impulses from taste receptors are transmitted by nerve fibers from two cranial nerves, facial and glossopharyngeal, to the temporal lobe.

c. Sight. Cells in the retina of the eye (fig. 2-3 Ⓐ) are stimulated by light rays entering the eye. These stimuli create impulses that are carried by the optic nerve to the visual center of the occipital lobe of the brain.

d. Hearing. Cells in the cochlea of the inner ear (fig. 2-32 Ⓑ) are stimulated by vibration of sound waves. These stimuli create impulses that are carried by the cochlear branch of the acoustic (auditory) nerve to the auditory center of the temporal lobe.

e. Equilibrium. In addition to receptors for hearing, the internal ear contains three semicircular canals which regulate the sense of equilibrium. Change in position of the head causes movement of fluid within the canals. The fluid movement stimulates nerve endings in the walls of the canals which send impulses to the brain by the vestibular branch of the auditory nerve.

2-75. The Eye

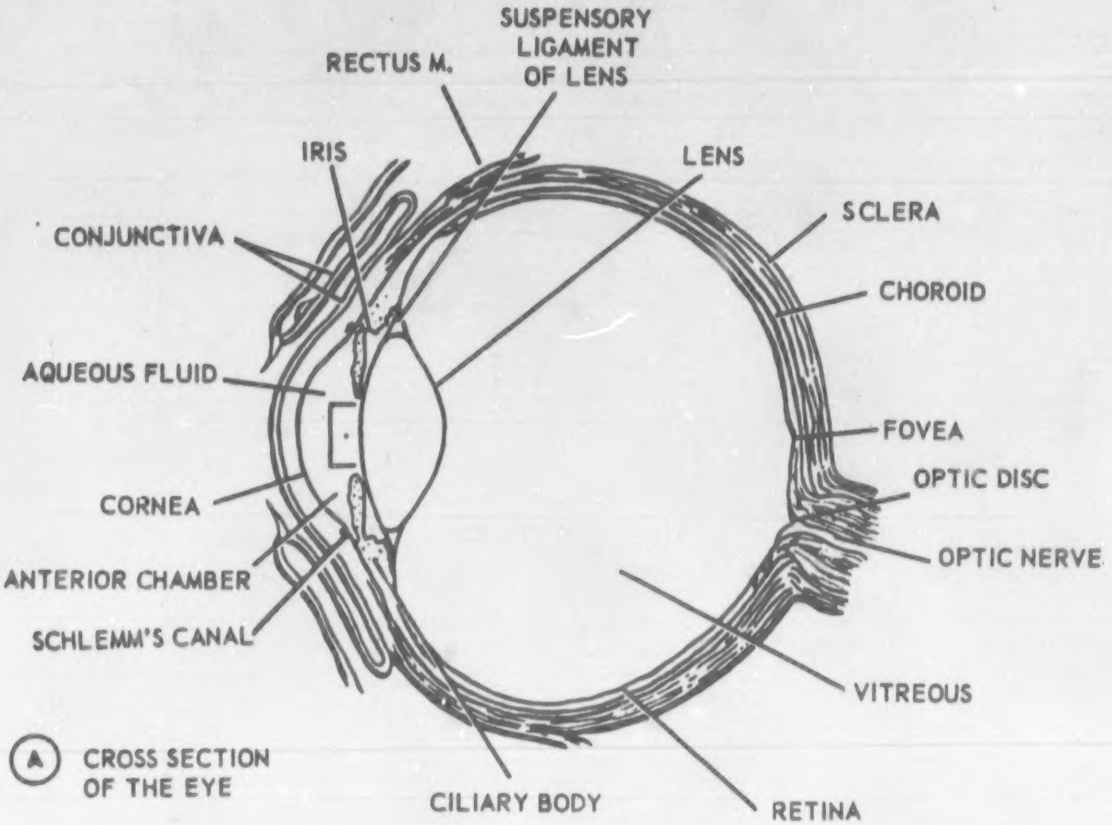
The eye is specialized for the reception of light. Each eye is located in a bony socket or cavity called the orbit, which is formed by several bones in the skull. The orbit provides protection, support, and attachment for the eye and its muscles, nerves, and blood vessels.

a. The Eyeball. The interior of the eye (fig. 2-31 Ⓐ) is divided into an anterior cavity (anterior to the lens) and a posterior cavity (posterior to the lens). A clear watery solution, the aqueous fluid, is formed and circulated in the anterior cavity. A transparent, semifluid material, the vitreous fluid, is contained in the posterior cavity. The globular form and firmness of the eyeball is maintained by its fluid contents, which also function in the transmission of light.

(1) *Eye tissue coats.* The eyeball has an outer coat, a middle coat, and an inner coat.

(*a*) *Outer coat.* The outer coat consists of a normally invisible, transparent anterior portion, the cornea, and a fibrous, white, nontransparent portion, the sclera, which is directly continuous with the cornea. The transparent cornea focuses and transmits light to the interior of the eye. The surface of the cornea must be moist at all times to maintain its transparency. The sclera helps to maintain the shape of the eyeball and protects the delicate structures within.

(*b*) *Middle coat.* The middle coat consists of the choroid, the iris, and the ciliary body. These three structures are referred to as the uveal tract. The choroid, the vascular middle layer of the eyeball, lies beneath the sclera and lines the posterior portion of the eye from the ciliary body to the optic nerve. The iris is a circular, colored, muscular membrane which is suspended between



Ⓐ CROSS SECTION OF THE EYE

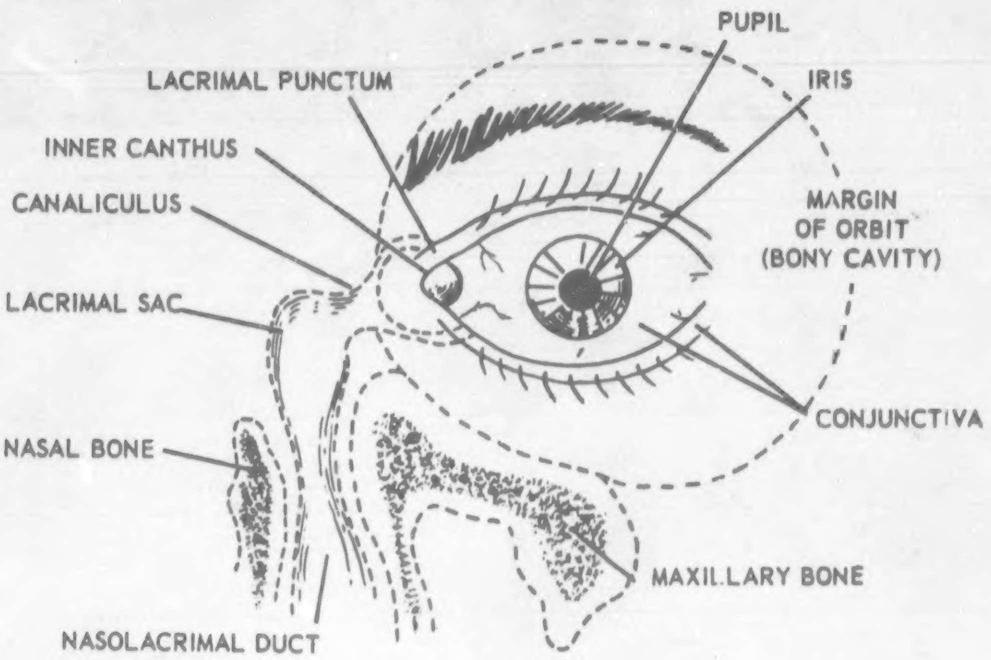
Figure 2-31. The eye.

the cornea and the lens. The pigment material in the iris gives the eye its characteristic color. The round opening in its center is the pupil. The muscle structure of the iris adjusts the size of the pupil to adapt the eye to existing brightness of light. The ciliary body lies between the iris and choroid; it has a muscular function, changing the focus of the lens, and a secretory function, producing aqueous fluid.

(c) *Inner coat.* The inner coat is the retina, which lines the interior of the eye except toward its anterior inner surface. The visual nerve cells (rods and cones) are arranged closest together at the central portion of the retina, the macula lutea. A slight depression in the macula lutea, the fovea centralis, is in a direct line back from the center of the cornea and lens and is the area of the retina most sensitive to light. Medial to the fovea centralis is the area called the optic disc, the site of exit of the optic nerve and entry of the retinal artery. Here there is a natural defect in the retina; there are no visual cells at the exit of the optic nerve and in every eye there is, therefore, a physiological "blind spot." When the doctor examines the interior of the eye with an ophthalmoscope, he can see the posterior surface of the retina and examine the appearance of the optic disc. The inner surface of the retina is in contact with the vitreous and the outer surface with the choroid. The condition known as "detached retina" means that some portion of the retina has become separated from the supporting choroid.

(2) *The lens.* The lens is a small, disc-shaped, transparent structure about 1/3 inch in diameter. It is situated immediately behind the iris and in front of the vitreous cavity. The lens is suspended in a capsule within the globe of the eye by a circular ligament, the suspensory ligament of the lens. This ligament is attached to the ciliary body. Muscular movements of the ciliary body affect the suspensory ligament and the consequent focus of the lens. The condition of "cataract" means that some portion of the lens has lost its transparency and has become cloudy or opaque.

(3) *Aqueous fluid.* The aqueous fluid is formed by a portion of the ciliary body and fills the two divisions of the anterior cavity of the eye, called the anterior and the posterior chamber.



Ⓑ THE EYE (FRONTAL, EXTERIOR VIEW) AND LACRIMAL APPARATUS.

Figure 2-31—Continued.

Aqueous fluid is normally crystal clear for transmission of light rays and its formation and flow helps maintain the normal intraocular pressure. The aqueous fluid flows from the posterior chamber to the anterior chamber and drains by means of a series of channels into the venous blood. The largest of these drainage channels is the canal of Schlemm. Interference with the normal formation and flow of aqueous fluid can lead to development of excessively high intraocular pressure, a condition called glaucoma. Glaucoma will cause blindness. Fortunately, glaucoma can be detected by a tonometry examination, the measurement of internal eye pressure by means of a measuring instrument, a tonometer. With early detection, glaucoma can be treated successfully and blindness can be prevented.

b. The External Eye and Accessory Structures. Viewed from the surface of the body, the anterior surface of the eye and some of its accessory structures such as eyebrows, lids, lashes, and conjunctiva are readily visible. An additional essential accessory structure, the lacrimal (tear) apparatus, is indicated in figure 2-31 Ⓑ.

(1) *Eyebrows and eyelashes.* The eyebrow and lashes are usually considered to have a cosmetic (decorative) function, but the eyelashes also help protect against the entrance of foreign objects into the eyes. An eyelash becomes a foreign body itself if it becomes detached and falls on the eye surface. On the margin of the eyelids near the attachment of the eyelashes are the openings of a number of glands. Infection in these glands is commonly called a sty.

(2) *Eyelids.* The eyelids are thin, moveable, protective coverings for the eyes. The junctions of the upper and lower eyelids of each eye are canthi; the inner canthus (fig. 2-31 Ⓑ) is at the nasal junction and the outer canthus is at the temporal junction. A sheet of connective tissue called the tarsal plate maintains the shape of the eyelids. The tarsal plate and the orbicularis oculi muscle hold the eyelids in proper position against the eye; a levator (lifting) muscle opens the upper lid by pulling the lid upward into the orbit. The circular orbicularis oculi muscle closes the eyelids.

(3) *Conjunctiva.* The conjunctiva (fig. 2-31 Ⓑ) is a delicate mucous membrane which lines the inside of the eyelids and covers the front surface of the eyeball, continuing over the cornea as the corneal epithelium. The edge or margin where the conjunctiva overlaps the cornea is called the limbus; it is sometimes visible at the periphery of

the iris. The semitransparent conjunctiva appears white on the front surface of the eyeball where it covers the sclera and pink where it overlies lid tissue. Should the conjunctiva itself become inflamed or infected it appears red and swollen; one type of acute bacterial infection of the conjunctiva is commonly called "pinkeye."

(4) *The lacrimal apparatus.* The lacrimal apparatus consists of the lacrimal gland, lacrimal ducts (canaliculi), lacrimal sac, and the nasolacrimal duct (fig. 2-31 Ⓑ). Its function is the secretion and drainage of tears. The lacrimal gland (not illustrated) is about the shape and size of a small almond and is located in a small depression on the lateral side of the frontal bone of the orbit. Many small ducts drain tears secreted by the gland to the conjunctival surface; the tears drain downward and toward the inner angle of the eye. The normal regular blinking of the eyelids helps to spread the tears evenly to provide a lubricating, protective, moist film over the exposed surface of the cornea. The tears drain into openings near the nasal portion of each eyelid (lacrimal puncti) and then into the tear ducts, the sac, and finally into the nose through the nasolacrimal duct. This normal formation and drainage of tears is the natural way in which the eye surface is kept clean and moist.

(5) *Extraocular muscles.* In addition to the levator muscles of the eyelids and the orbicularis oculi, there are six sets of muscles located outside the eyeball. These muscles raise, lower, or rotate the eyeball within its socket. The muscles of the two eyes normally function in a coordinated manner so that both eyes move simultaneously and are aimed in the same direction. Divergence or crossing of the eyes is called strabismus.

2-76. The Ear

The ear, the organ of hearing, consists of three parts; the external ear, the middle ear (tympanic cavity), and the internal ear (the labyrinth). These divisions are commonly referred to as the outer ear, the middle ear, and the inner ear. They provide the reception and conduction of sound and contain one of the principal mechanisms for the maintenance of equilibrium. The structures of the ear, except the part protruding from the head, are situated within portions of the temporal bone of the skull.

a. The external ear (fig. 2-32 Ⓐ) consists of the shell-shaped portion of the ear, called the auricle or pinna, which projects from the side of the head and of the external acoustic meatus, which is the external auditory canal leading inward toward the middle ear. The principal function of the external ear is the collection and conduction of sound waves to the middle and the inner ear. The auricle or pinna is composed of cartilage covered with membrane (called the perichondrium) and the skin.

(1) The prominent folded rim of the ear is the helix.

(2) A deep cavity, the concha, leads into the external auditory canal.

(3) In front of the concha and projecting backward over the entrance to the external auditory canal is a small, triangular eminence of cartilage called the tragus. The tragus protects, but does not touch, the entrance to the external auditory canal. The undersurface of the tragus is usually covered with soft hairs which help to prevent insects and other foreign bodies from entering the ear.

(4) The lobule, or lobe, is located inferior to the tragus and to the lowest point of the helix. The lobule contains no cartilage, is composed of adipose (fatty) tissue and of connective tissue, and lacks the firmness of the rest of the auricle.

b. The external auditory canal extends about 1¼ inches from its entrance at the bottom of the concha to the tympanic membrane, or eardrum, which closes its inner end. The canal is formed of two parts, its outer, or cartilaginous, part which is formed of cartilage and membrane; and its inner, or bony portion, formed by a passage in the temporal bone. The cartilage of the auricle is continuous with that forming the outer portion of the canal.

(1) Two or more deep fissures are present in

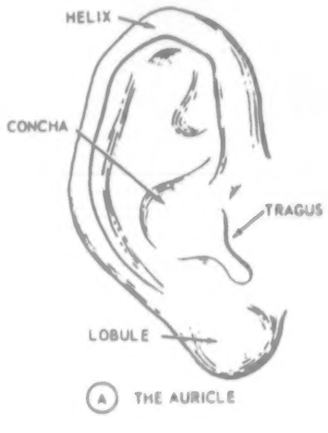
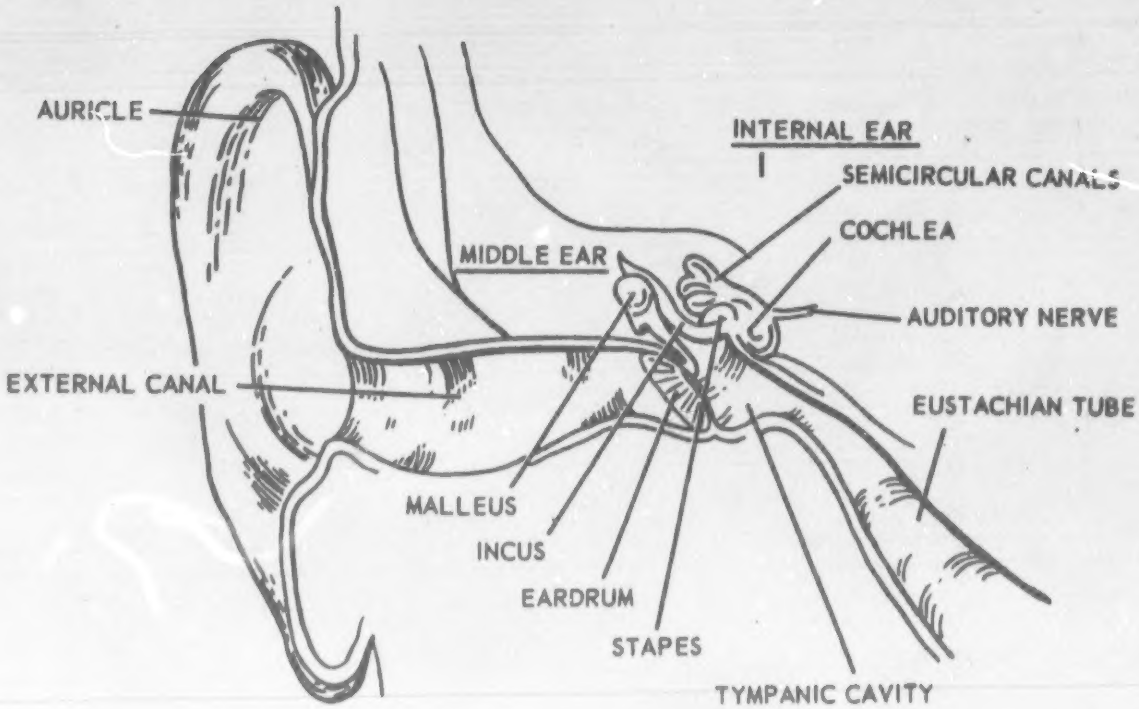


Figure 2-32. The ear.



B THE EXTERNAL, MIDDLE, AND INTERNAL EAR, FRONTAL VIEW

Figure 2-32—Continued

the anterior wall of the cartilaginous portion of the canal and are filled with fibrous membrane which allows for the flexibility of the canal. If the auricle (helix area) is pulled up and back, this portion of the canal straightens and may be examined or treated more easily. The entire passage is lined with skin. Near the entrance of the canal, the skin contains wax-producing glands and hair follicles. This wax, called cerumen, also helps to prevent the entry of foreign objects into the ear.

(2) The tympanic membrane, or eardrum, separates the inner end of the canal from the middle ear. The medical officer examines the external canal and the eardrum by means of a lighted instrument, an otoscope. The normal eardrum is translucent (partly transparent) and shiny gray (pearl-like). When inflamed, it appears pink or dull red.

c. The middle ear (tympanic cavity) is an irregular space in the temporal bone filled with air and containing the three ossicles of the ear: malleus (hammer), incus (anvil), and stapes (stirrup). These bones conduct vibrations from the eardrum to the internal ear.

(1) The eustachian tube which connects the middle ear with the nasopharynx is about 1½ inches long. The trumpet-shaped opening of the eustachian tube into the pharynx remains closed except during the act of yawning or of swallowing, when it opens to admit air into the middle ear, thus performing its principal function of keeping the air pressure equal on either side of the eardrum. This is also an avenue of infection by which disease spreads from the throat to the middle ear.

(2) The roof or superior wall of the middle ear is composed of a very thin plate of bone which separates it from the dura. This bony plate is quite susceptible to fracture in head trauma and to spread of infection from the middle ear (otitis media), either of which can result in intracranial disease.

d. Internal ear (labyrinth). The internal ear contains receptors for hearing and equilibrium.

The receptor for hearing, the organ of Corti, lies within a structure called the cochlea which is coiled and resembles the shell of a snail.

(1) Sound waves, which pass through the external auditory canal, vibrate the eardrum and ossicles and are finally transmitted through the fluid of the inner ear. Nerve impulses travel through the acoustic (auditory) nerve from the organ of Corti to the auditory center of the cerebral cortex. The acoustic nerve is the final link in the chain of mechanisms which convey the sensation of sound to the brain for perception.

(2) The internal ear also contains three semicircular canals which control equilibrium. Change in the position of the head causes movement of the fluid within the canals and this fluid movement stimulates nerve endings in the wall of the canal. These nerve endings serve as receptors and transmit impulses along the acoustic nerve to the cerebellum.

Section XI. THE ENDOCRINE SYSTEM

2-77. Components

The endocrine system is made up of glands classified as glands of internal secretion (ductless glands). These glands are located in different parts of the body (fig. 2-33). Secretions produced by endocrine glands are hormones, which are secreted directly into the circulating blood, reach every part of the body, and influence the activities of specific organs and tissues, as well as the activities of the body as a whole. Small in quantity but powerful in action, hormones are part of the body's chemical coordinating and regulating system. There are six recognized endocrine glands—the thyroid, parathyroid, adrenals, pituitary (hypophysis), the testes or ovaries (male or female gonads, the glands of sex), and the pancreas.

2-78. The Thyroid

The thyroid gland, located in front of the neck, has two lobes, one on either side of the larynx. The hormone produced by the thyroid is thyroxin. This hormone is associated with metabolism, regulating heat and energy production in body cells. Thyroid gland cells need a mineral, iodine, to manufacture thyroxin. Iodine is ordinarily obtained from foods included in normal diet; however, certain geographical areas have an iodine deficiency. In these areas, iodized table salt can be used to insure an adequate amount of iodine for normal thyroid function. (This use of iodized salt is an example of a preventive health measure.) Disorders of thyroid function include hyperthyroidism, which, when severe, causes a dangerous increase in the metabolic rate; and hypothyroidism, an opposite condition, which causes physical and mental sluggishness. An enlargement of the thyroid gland is called a goiter. When the enlargement is a nodular tumor, it is called an adenoma. During a physical examination, the doctor may palpate the neck tissues to determine the size and consistency of thyroid tissue.

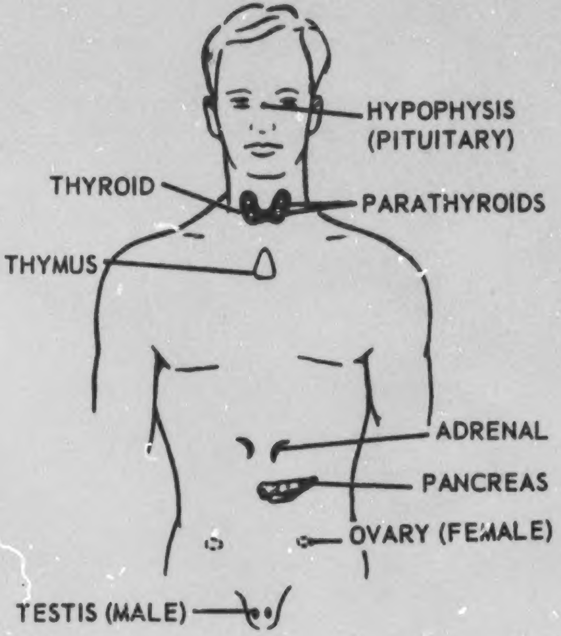


Figure 2-33. Endocrine system.

2-79. The Parathyroids

The parathyroid glands, usually four in number, are located on the posterior surfaces of the lobes of the thyroid gland. These glands produce the hormone, parathormone, which helps to regulate the amount of calcium in the blood. Calcium, normally stored in the bones, is released into the blood as required for normal nerve and muscle tissue function. When there is too little calcium in the blood, a type of muscle twitching called tetany develops. Because of the location of the parathyroid glands in relation to the thyroid, special ob-

CHAPTER 5

BASIC NURSING PROCEDURES

Section I. INTRODUCTION TO NURSING CARE

5-1. Meaning of Nursing Care

Nursing care is doing needful and helpful things for and with a sick or injured person to restore him to the best possible state of physical and mental health. These needful and helpful things include environmental, hygienic, therapeutic, and supportive measures to protect the patient against contracting any additional pathological condition, physical or emotional. Body, mind, and spirit must all receive attention.

5-2. Nursing Care Team

Several different members of a nursing team assist a patient, each of whom contributes something toward the patient's welfare. Each member must understand and appreciate the other's role. Each must know where he fits in, what he is to do, to whom he is responsible, and how he is to do his part. Otherwise, team function is impossible, and the patient is in danger of being a forgotten person instead of the focus of all effort. In an Army Medical Department nursing situation, there is an established relationship between the medical officer, the nurse officer, and the enlisted specialist.

a. The Medical Officer. A doctor is the traditional head of the overall patient care team. He makes decisions and gives orders for the care and treatment of patients. He is responsible to the chief of his service for the patients and for the efficient operation of the ward. The doctor delegates appropriate patient care responsibility to nursing team members and requests services from other departments such as laboratory, radiology, and food service.

b. The Nurse Officer. The nurse officer is the professional nurse member of the team. She determines how the doctor's orders are to be carried out. She is responsible to the doctor and to the Chief, Nursing Service, for the nursing care and instruction of patients, the management of the ward or clinic unit, and the supervision and instruction of enlisted team members.

c. Enlisted Specialist. The enlisted specialist functions in three recognized skill, training, and experience capacities.

(1) The medical corpsman, 91A is the apprentice, the beginner. By carrying out routine, simple nursing procedures under supervision, he gains needed skill and experience in working with patients. While assisting in specified ways in more complex situations, he gains insight into the multiple details that make up individualized patient care.

(2) The medical specialist, 91B, at an intermediate technical skill level, is learning to apply his experience in increasingly complex nursing situations requiring both skill and judgment.

(3) The clinical specialist, 91C, is at an advanced technical skill level, applying his background training and experience in nursing situations requiring both skill and judgment.

5-3. Desirable Attributes of the Medical Specialist

The enlisted specialist may perform any of a number of duties common to the provision of nursing care for sick and wounded individuals. To function effectively in this role, he must possess certain personal attributes or qualities. Many of these attributes are inherent (belonging by nature to the individual), others must be cultivated and improved upon, and all are interdependent. Basic attributes of a good medical specialist include—

a. Aptitude. This is potential capacity for learning and performing a duty. The ability to anticipate needs of patients, to make appropriate decisions, and to adapt to various working conditions; intelligence; and a fairly high degree of manual dexterity indicate an aptitude for nursing care duties.

b. Interest. Interest in a duty assignment is a reflection of morale and leadership. It is a strong motivating force to perform satisfactorily. Interest leads one to improve upon abilities and to improve job knowledge. Senior medical specialists who function in supervisory positions should strive to stimulate and encourage less-experienced individuals.

c. Attitude. Attitude is a manner of acting, feeling, or thinking that shows the individual's disposition or opinion. It is the action that speaks louder than words. A desirable attitude is one which leads to—

(1) Cooperation and understanding among people working together.

(2) Concern and consideration for the welfare of patients.

(3) A sense of satisfaction in knowing one's job, with a resulting series of positive accomplishments. The gratitude of patients who have been assisted to recovery is an extra dividend.

d. Personal Hygiene. Personal hygiene is usually considered personal cleanliness. It is that, but it is also anything that promotes positive or total health, which includes mental hygiene.

(1) *Cleanliness.* Scrupulous body cleanliness and clean, well-fitting uniforms, shoes, and underclothing are essential. Body odors are very offensive, yet the offender may be unaware of his offense. Daily bathing, use of body deodorants, and good oral hygiene are insurance against such odors. It is also a good practice to wear a clean, freshly laundered uniform daily, especially in patient care areas. When this is not possible, the uniform should be removed after duty hours and hung up so as to air it between wearings. Sweaters and other infrequently laundered outer garments should not be worn when assisting with direct patient care.

(2) *Mental hygiene.* Mental hygiene is the practice of good habits of the mind. Good mental habits can be cultivated. These habits are as necessary to health as safe food and water to body systems. A mentally healthy adult enjoys life, works well with others, and can take disappointments as a part of living. Tolerance of others and respecting the rights of others are part of mental hygiene.

(*a*) A good mental habit to cultivate is enjoyment of the companionship of members of the group to which assigned. Also, an emotional bond must be developed with individuals who are undergoing similar experiences. It is normal to become deeply concerned and to need to discuss experiences in patient care situtions, but these discussions must be held in appropriate locations and under appropriate circumstances; *for example,* in ward conferences. Experiences shared on the ward must not be discussed in public areas such as elevators and mess halls.

(*b*) Personal anxieties and frustrations can be combated if they can be expressed in words and shared with associates. If personal problems need expert guidance for solving, the experts available in the Army organization—company commander, chaplain, legal advisory officer, or medical officer—should be consulted. The specialist never discusses personal problems with patients nor does he ever become personally involved with a patient's problems.

5–4. Classification of Nursing Procedures

a. Routine Procedures. Procedures performed on a repetitive basis, requiring little or no modification to meet individual needs of a patient.

b. Basic Procedures. Procedures developed to meet daily hygienic, comfort, and therapeutic needs of patients. Some of these procedures involve direct patient care, such as bathing; feeding; positioning; and taking the temperature, pulse, and respiration. Some of them involve indirect patient care, such as maintaining ward cleanliness, preparing supplies and equipment, and maintaining clinical records and reports.

c. Simple and Complex Nursing Procedures. The term "simple" must be considered in relation to the total nursing situation. Four factors determine simplicity or complexity. It is a simple nursing procedure if (a) abilities required to perform the procedure are based on a comparatively limited background knowledge of scientific facts, (b) it can be performed by following a defined procedure step by step, (c) it is performed for a patient whose clinical state is relatively stable, and (d) the instructional needs of the patient are minimal. A variation in any of these four factors contributes to the complexity of a procedure. *For example,* giving a bed bath and making an occupied bed can be a routine, basic, simple nursing procedure, or it can be an exceedingly complex procedure, depending upon the condition of the patient. In a simple nursing situation, the medical corpsman would be assigned to carry out the procedure with minimal assistance and supervision; in a complex nursing situation, the clinical specialist would be assigned to assist the nurse or medical officer with some phases of care and would carry out other phases with supervision and direction.

Section II. CARING FOR THE PATIENT'S ENVIRONMENT

5-5. General Measures for Preventing Spread of Infection

a. General. All personnel and all patients, regardless of position or diagnosis, should be recognized as potential carriers of pathogenic organisms. It is therefore essential to consider practices that prevent the transfer of these organisms from one person to another. These practices are all essential elements of individualized patient care and of medical asepsis.

b. Individualized Equipment. This is equipment that remains within the patient unit and must not be transferred or borrowed for use by other patients. It includes pillows, blankets, and personal toilet articles. Utensils in common use such as bedpans, urinals, or basins are thoroughly washed and sanitized in boiling water after each use since all body discharges must be handled as contaminants.

c. Treatment Equipment. Trays containing equipment used for venipuncture, thermometer trays, blood pressure equipment, etc., are used for more than one patient. They should be transported on a wheeled table that will serve as a clean work area within the patient unit. It is an unsafe practice to place such trays in common use on a bed or bedside stand.

d. Linen. Used linen is placed directly into laundry bags, never on the floor. No counting or sorting of soiled linen should be done on hospital wards. Linen that has been placed in a patient unit must not be returned to the linen room even though unused.

e. Waste Receptacles. Wastebaskets and other receptacles should be lined, preferably with plastic liners, to facilitate the sanitary collection of waste. Paper bags should be provided at every bedside for disposal of tissues and other personal debris. Soiled dressings must be placed in bags or other wrappings, removed from the patient area immediately, and discarded in a lined, covered receptacle such as a step-on sanette can.

5-6. Handwashing Procedures

Washing the hands before and after caring for a patient is the most important single factor in preventing the spread of disease. The entire procedure can be done effectively in 1 minute.

WITH RUNNING WATER

Preferred methods of controlling water supply and cleaning agent are levers operated by the foot, knee, or elbow. (The insides of sinks and hoppers are considered contaminated; that is why stoppers and plugs are not used in sinks in ward areas.) When sinks with faucets and cake soap are used, turn the faucet on with bare hand. Rinse lather from soap before placing on a pronged soap rest to dry. (Soap is contaminated when left in a puddle of soiled lather drippings.) Always turn faucet off with a clean paper towel to protect clean hands.

Procedure

1. Adjust water flow to warm.
2. Wet hands.
3. Apply cleansing agent.
4. Work up a lather, using friction. Pay attention to web spaces between fingers by combining interlocked finger movements with palm and dorsal friction. Wash with lather for 20 seconds.
5. Rinse thoroughly, holding hands down to allow water to drain off fingertips (fig. 5-1).
6. Dry hands thoroughly with clean paper towel.
7. Apply hand lotion p.r.n. to keep skin in good condition.

WITH BASIN

A basin is used only as an expedient when running water is not located convenient to a patient care unit. The basin provided for handwashing must be emptied and refilled frequently, and at least every 8 hours with a fresh germicide-detergent solution. The solution used must be prepared in the recommended concentration to provide cleansing action that will not be injurious to the hands. (Paragraph 4-46*b* gives instruction for preparation and use of Wescodyne handwash solution).

One-Basin Procedure

1. Immerse hands and wrists in the prescribed solution.

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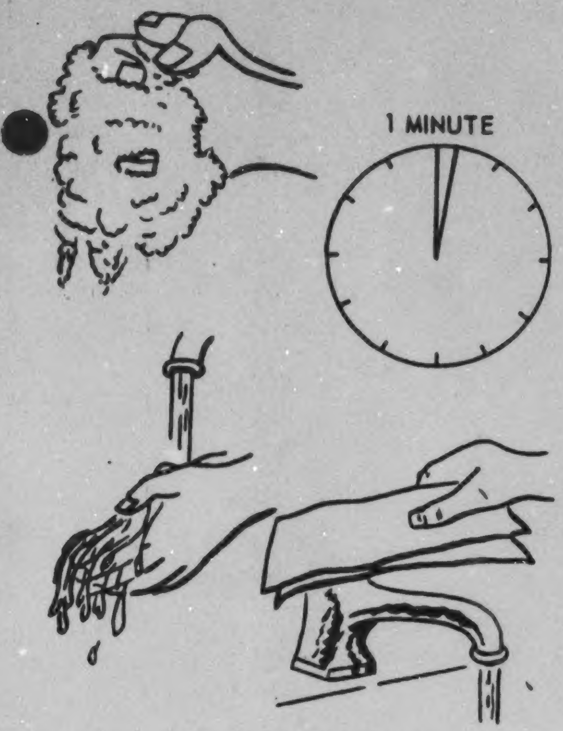


Figure 5-1. Handwashing technique.

2. While hands are immersed, rub all skin surfaces thoroughly, being certain to include the web spaces between the fingers. Interlace the fingers and rub the palms together briskly.
3. Let solution drain off fingertips.
4. Dry hands thoroughly with paper towel.

NOTE

> As soon as possible after washing the hands in a basin, wash hands with running water as described above.

Two-Basin Procedure

As an alternate procedure, and depending on local policy, two basins may be used, with one containing the germicidal-detergent solution; the other, water.

1–3. Follow steps 1 through 3 in one-basin procedure above.

4. Rinse hands with clear water.
5. Dry hands thoroughly with paper towel.

IMPROVISED HANDWASHING DEVICE (FIELD USE)

Improvised devices for washing hands in field conditions use the principles of running water, friction, and thorough rinsing. The simplest device uses a size 10 food can with perforations. Clean water is provided from a 5-gallon reservoir can. This method is described in FM 21-10.

5–7. Hospital-Acquired Staphylococcal Infection

Prevention and control of this type of infection require concerted effort and active participation of all hospital personnel. Strict attention to surgical asepsis, increased attention to the basic rules of medical asepsis and personal hygiene for patients and personnel, and improved methods of hospital housekeeping and environmental sanitation are the foundation of control and preventive measures. In the Army Medical Department, specific prevention and control measures are determined at the hospital administrative level by order of the hospital commander. An Infections Control Committee is appointed to collect data on all infections acquired within the hospital and to determine the nature of the problem. This committee evaluates all phases of hospital operations pertaining to the control of infections and sponsors a continuing educational program for all hospital personnel on the current concepts of proper prevention and control of infections. (Prevention and control of hospital infections are discussed in greater detail in TB Med 260.)

5–8. Cleanliness and Order in the Ward

The ward is the unit of the hospital in which a patient receives medical care and treatment and in which he also lives. It must be maintained as a safe, pleasant, clean, and orderly environment for his physical and mental well-being. Dust and debris, which harbor microorganisms, accumulate daily and in astonishing amounts when from 20 to 60 patients receive care in the limited area of the ward. Constant effort is needed to achieve and maintain the necessary high level of order and sanitation. Although the tasks involved are classified as "indirect patient care assignment," all of them contribute directly to high-quality patient care.

a. Appearance and Arrangement of Patient Unit Equipment. The patient's basic unit includes the bed, the bedside cabinet, and the chair. Arrangement in a uniform fashion (fig. 5-2) promotes the orderly appearance of a room or multiple-unit open ward.

(1) *Bed.* The standard gatch bed is placed away from the walls to allow movement on all four sides and accessibility to the patient occupy-

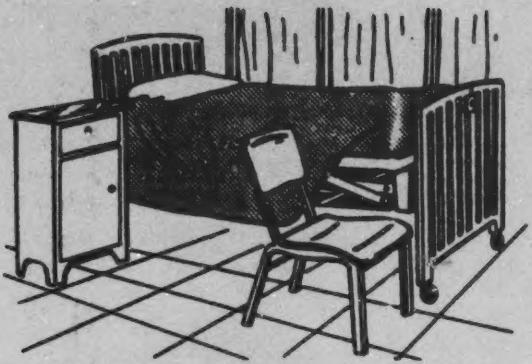


Figure 5-2. Arrangement of patient unit.

ing it. The spacing between beds is 5 feet in order to reduce the spread of respiratory disease. (An estimate of the required 5-foot distance can be made by remembering that the standard bedside cabinet is 20 inches wide—3 abreast equal 5 feet). When this spacing is impossible, the recommended preventive medicine procedure is to place beds head to foot. The large wheels on the gatch bed provide mobility when needed, but when the bed is stationary, the wheels must be turned in and locked to reduce hazards. The gatch handles are left in the down position after adjusting the bedframe.

(2) *Bedside cabinet*. The cabinet is placed to the patient's right unless contraindicated by patient needs. It is alined to the head of the bed when the bed is unoccupied but moved for patient accessibility p.r.n. Minimal required articles are kept on top; for example, water pitcher, glass, and tissue box. The movable rubber top provides a convenient device for securing the paper waste bag at each bedside. Personal articles such as pictures and table radios (when permissible) should be handled carefully to avoid damage. Personal toilet articles are kept in the drawer; the robe and shoes, in the lower section.

(3) *Chair*. The chair is placed on the same side as the cabinet. Visitors at the bedside are requested to use chairs and are reminded, courteously, not to sit on the bed.

(4) *Floor*. The floor is clear, clean, and dry at all times. Anything dropped or spilled is cleaned up immediately. When custodial service is not provided for the ward, the wardmaster schedules the overall floor cleaning detail.

b. Ward Hygiene Measures.

(1) *Ventilation*. Free air circulation should be provided but patients should be protected from any draft (a direct air current blowing on an individual). Window ventilators are used, and window sills are kept clear of all other articles and free of dust. Air-conditioned units have central controls and thermostats.

(2) *Temperature*. A relatively constant temperature between 68 and 72 degrees is desirable.

(3) *Lighting*. Adjustable, swivel lamps are clamped to the head of the bed. The bulb should be 40 watts for safety. Overhead lights that glare into the patient's eyes should be avoided. Window shades should be adjusted. A standard gooseneck lamp is used at the bedside when additional light is needed for examinations and treatments.

(4) *Odors*. Odors are controlled by cleanliness, by prompt disposal of excreta and soiled dressings, and by proper ventilation. Body excretions leaking from drainage tubes or bottles to the floor must be cleaned up immediately. The use of deodorants to cover up unpleasant odors is not a recommended practice.

(5) *Noise*. Noise is controlled by orderly, quiet work habits. Banging metal equipment and loud talking must be avoided. Rubber heels are regulation, and no metal cleats are worn on them.

(6) *Privacy*. Doors, bed cubicle curtains, and portable screens are provided for privacy.

c. General Care of Ward Equipment. With few exceptions, equipment for ward use is durable, washable, and easily kept free of accumulations of dust, stains, body secretions, and rust. Corrosion-resistant metal and smooth-finished plastic items are used in preference to painted or enameled metal and fragile glass.

(1) *Routine cleansing*. Blood, urine, feces, and other body discharges must be rinsed off as soon as possible with cold water, as these substances contain protein which hardens on exposure to air or heat. They should then be washed thoroughly with hot, soapy water, followed by thorough rinsing with clear hot water to remove soap film. (Detergent-disinfectant solutions are often recommended for washing since they do not leave a soap film which would be incompatible with the chemical action of the disinfectant. Gritty scouring powder and strong cleaning compounds should not be used as they may scratch and roughen the smooth surface.) The clean surface should then be dried with a clean cloth or paper towel to prevent spotting or streaking.

(2) *Nonimmersible items*. These are wiped with firm strokes, using a damp cloth wrung out

of fresh, clean detergent solution, or when so recommended, out of a germicidal solution such as 7[illegible] percent alcohol. The surfaces and crevices are dried with a soft, clean cloth. Examples of nonimmersible items to be cleaned in this fashion are: flashlights; stethoscopes; blood pressure apparatus (note, however, that the cloth cuff is removable and washable); the cabinet assemblies of electrical equipment; irrigating stands; and other hospital furniture items. The wheels of wheeled equipment must also be washed and kept free of dust and debris.

(3) *Use of disposable or reusable items.*

(*a*) Disposable (one-time use) items such as catheters, syringes, needles, gloves, and preassembled catheterization sets are used for safety and economy of time and effort. They are available through CMS as standard items. Policies concerning the use of disposable medical materiel are prescribed in AR 40-23. Some key points in their use are as follows:

- Disposables are designed for a one-time use. Do not attempt to reuse or resterilize.
- Sterile disposables are sterile indefinitely providing the wrapper is not broken or torn.
- Supposedly sterile disposables with torn or broken wrappers must be discarded. They are *not* sterile.
- Disposables are designed for a specific purpose such as a catheterization tray. Do not use for a different purpose.
- Manufacturer's directions should be followed when using disposables.

(*b*) Army Medical Department personnel are expected to maintain a high degree of efficiency in the proper care and use of reusable medical materiel that is provided as basic unit equipment.

(4) *Sanitizing.* This term describes cleaning procedures that meet public health standards. Although a sanitized article need not be sterile, no harmful microorganisms should be present. Sanitization reduces the microbial level. Facilities on the average ward are adequate for sanitizing patient care equipment but not for sterilizing. Equipment to be sterilized is returned to CMS.

(*a*) *The utensil boiler.* This equipment is classified as a sanitizer, not a sterilizer. Previously washed and rinsed utensils are placed in the boiler, immersed completely, and boiled for 30 minutes. This is considered a reasonably safe method of disinfecting utensils for common use of patients. The boiler must be drained and the interior cleaned daily to prevent a build-up of scum and mineral deposits.

(*b*) *The bedpan-urinal washer.* This uses cold water under pressure for flushing away the contents of the bedpan or urinal and live steam for sanitizing. Personnel should be sure to release the foot pedal and close the door before pushing the flush valve. After flushing, the steam valve is turned on. Two minutes of exposure to live steam are considered adequate. If the automatic washer is not available, the contents are emptied into a toilet, the utensil is rinsed with cold water, and then scrubbed with a toilet brush and soap and water (or a detergent solution). The equipment is then rinsed and boiled for 30 minutes.

d. Use and Care of Ward Property. Property, as used in the Army Medical Department, encompasses all supplies, equipment, instruments, and other material having monetary value.

(1) *Economy.* It is the responsibility of each member of the patient care team to use supplies economically, to exercise care in using equipment, and to use property for the purpose for which it is intended. Use of good bed linen for cleaning rags, for example, is misuse of property and is contrary to the principles of supply economy and the cost consciousness program.

(2) *Maintenance and repairs.* The directions for use of equipment should be followed, including the necessary steps for operator preventive maintenance. Personnel should never attempt to make unauthorized repairs nor to use faulty equipment. Any part missing or not working properly should be reported to the wardmaster. He will see that it is properly tagged, that trained personnel are notified for required repairs, and that equipment in good condition is obtained through authorized supply channels.

e. Ward Cleanup and Storage Areas. The designated cleanup and storage areas on a ward should be used for appropriate purposes.

(1) *Utility room.* This room is equipped with a sink, hopper (a tub with a flush attachment for disposing of liquid wastes), bedpan and urinal washer, utensil sanitizer, and storage racks and cabinets. Washbasins, emesis basins, bedpans, urinals, waste receptacles, laundry hampers, and similar equipment are appropriately cared for and stored in the utility room. However, this room is not an appropriate area for storage of sterile supplies, water pitchers, glasses, or the ice machines.

(2) *Workroom.* This clean-up and storage area is usually adjacent to the utility room. Instruments, syringes, needles, trays, and similar equipment associated with sterile and clean treatment procedures are cleaned and stored in the workroom.

(3) *Water pitchers and glasses.* Although all water pitchers, glasses, and other drinking utensils are sanitized in dishwashing machines operated by food service, a proper storage point for clean items must be provided on a ward. The ice machine also requires similar attention. Since most wards no longer have a ward kitchen, these items are stored in a designated clean cupboard or alcove. A special area in the workroom may be appropriate. In some wards, a separate, small ward pantry is provided for the ice machine and drinking water equipment.

(4) *Linen room.* Clean linen is stored in a designated linen room, which is kept locked but accessible to authorized personnel. It is good practice to handle clean linen as little as possible when it is returned from the laundry. Linen should be placed neatly on the shelves and sorted as to variety (sheets, pillowcases, pajamas according to size, etc.) but not refolded.

5–9. Safety and Accident Prevention

a. Safety means freedom from danger or hazard. Safety in a hospital is attained through accident prevention. This, in turn, calls for maintaining safeguards for patients, duty personnel, and visitors. The safety of the patient must always be considered in giving patient care. This involves providing a safe environment, practicing safe work methods, and using equipment properly. Accident prevention is a responsibility shared by all members of the patient care team.

b. The main causes of hospital accidents are negligence by personnel, careless work habits, improper use of equipment, and use of faulty equipment. Most of these hazards can be avoided if all hospital personnel observe safety rules, practice safety measures, and recognize and eliminate, or report, hazards.

c. Following are ways to promote safety in the hospital environment:

(1) Keep floors clean, dry, and free of objects which might cause a person to fall. When washing or polishing floors, take special precautions to guard against falls.

(2) Keep corridors clear and well lighted.

(3) Keep working areas well lighted.

(4) Keep latrines lighted at night.

(5) Keep casters (wheels) and cranks of beds turned inward to prevent tripping on wheels and being injured by the cranks. Casters should be locked.

(6) Use care in handling sharp and pointed instruments and glassware. Discard razor blades, broken glass, and needles in designated containers.

(7) Do not use chipped and cracked glassware.

(8) Wrap glass connectors and glass tubing in a towel or protective gauze before twisting, pulling, or pushing them into rubber or plastic tubing. The glass connection and the tubing into which it is inserted should be of appropriate and matching diameters. Moisten both insertion points for ease in assembling. (Clean tap water is the recommended lubricant for nonsterile equipment. A sterile solution is required for sterile assemblies.)

(9) Never pour any material from an unlabeled container, and never pour stock solutions or cleaning compound solutions in containers bearing labels of other substances. Keep poisons in locked cabinets. (Poisons are always specially labeled by the pharmacy before they are sent to the ward.)

(10) Use proper body mechanics in moving and lifting objects.

(11) Report unsafe conditions to the proper personnel. On a ward or clinic, the senior NCO is a proper person.

d. Safety in handling patients and in carrying out treatments is most important.

(1) Take precautions to prevent patients from falling out of bed. Use bedrails, securely attached, on beds of young children, elderly patients, and patients who are restless or unconscious. Provide footstools and other assistance for patients having trouble getting into or out of bed. Keep the bedside table and call bell within easy reach of the patient. Warn him about the height and width of hospital beds. Lock the wheels of the patient's bed.

(2) Provide adequate support in lifting patients. Always get someone to help you when moving or lifting a heavy or a helpless patient.

(3) Take all necessary precautions when the patient is receiving oxygen (table 5–4).

(4) Test hot water bottles for temperature and leaks. Always cover these bottles.

(5) Give constant supervision to patients receiving treatment with heat lamps.

(6) Know how to use and care for equipment properly. Read all directions in the operator's handbook or manual accompanying the equipment.

(7) Take all necessary precautions when using electrical equipment. Examine the cords and the plugs of electrical appliances before using them. Arrange electrical cords so that there is no danger that any one will trip over them. Keep electrical equipment dry. Do not use faulty equipment; tag it and turn it in for repairs.

(8) Know and obey fire regulations. Practice fire prevention. Enforce smoking rules for patient and personnel. Never dim lights by covering them with a towel or with paper. Be careful when using flammable fluids such as ether. Discard oil or wax cleaning cloths in metal containers. Report gas odors immediately. Keep fire doors closed. Know the location and operation of fire extinguishers. Know the evacuation plan of the ward. Know how to report immediately the detection of any flame or smoke. It is customary to post the telephone number for FIRE on the telephone itself. (Personnel sometimes become so accustomed to seeing this number, they fail to notice it.) Even if a minor fire (such as in a waste container) is detected and extinguished immediately, report the fire so that a proper investigation can be made of its cause.

5–10. Cleaning a Patient Unit

This procedure is followed upon discharge or transfer of a patient. A similar procedure is required on a regularly scheduled basis for a long-term patient because over a period of time dust and germs will accumulate that concurrent (daily) cleaning does not control. Nursing service personnel are responsible for the following: bed, bedside cabinet, chair, overbed table (when used), lamp, and curtain or cubicle partition. When custodial housekeeping services are not available, the floor, window sills within the patient unit area, and adjoining bathroom are part of this unit-cleaning responsibility.

EQUIPMENT

Wheeled utility cart
Wheeled laundry hamper
Cleaning cloths
Wastebasket with paper bag or plastic liner
Basin of prescribed detergent-germicide solution

PROCEDURE

1. Assemble equipment in utility room and take to unit.
2. Clear bedside cabinet (overbed table if used). Check for any personal articles left by patient and turn them in to wardmaster. Place all utensils and any reusable treatment equipment on cart. Discard waste in wastebasket. Place any unused linen in unit in laundry hamper.
3. Strip bed. Remove pillow, placing pillow on chair and pillowcase in hamper. Lower bed gatch. Loosen bedding all around, walking around the bed and lifting the mattress edge to release linen without snagging on bedsprings. Check to see that no articles are concealed in linen folds. Roll each piece toward the foot of bed. Check pocket of discarded pajamas and bathrobe. Place all linen in hamper. (Fold woolen blankets, if used, and place on cart for special laundry.)
4. Clean bed. Wash top of plastic mattress cover, inspecting for any tears. Rinse cloth frequently and use damp but not dripping wet. Replace any damaged cover. Turn clean surfaces of mattress together, toward head of bed. Wash bottom half of bedspring, raising foot gatch and washing foot of bedframe and all crevices. Lower gatch. By grasping clean fold of mattress, lift and swing its clean side crosswise on clean half of spring (fig. 5–3) and wash exposed surface. Place pillow on unwashed upper half of spring. Wash top surface of pillow. Place pillow clean side down on clean mattress surface and wash other side. Wash upper spring, raising head gatch, to complete bed cleansing. Wash cabinet, inside

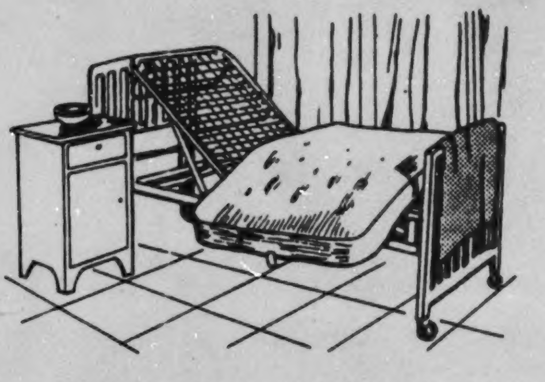


Figure 5–3. Cleaning the bedside unit.

and out. Complete unit cleaning by washing chair, bed lamp (cord unplugged), signal cord, and overbed table, if used. If responsible for floor, sweep and mop. Wash hands when cleaning is completed. Remake bed for a new occupant.

5. Discard waste. If cleaning cloths are to be reused, place in laundry hamper.
6. Wash collected utensils and place in sanitizer for a 30-minute boiling period. Wash utility cart and return to storage place.
7. Wash hands.
8. Remove clean utensils from boiler. Dry and return to storage shelf.

5–11. Bedmaking

a. Make all beds in a ward alike for uniformity of appearance. A well-made bed is neat, comfortable, free of wrinkles, and readily adaptable to the specific needs of an individual patient.

b. Use good body mechanics (section 3) when making beds and make each movement purposeful to conserve time and motion.

c. Handle all linen so as to reduce dust and spread of microorganisms. Do not shake or fan out clean or soiled linen. Hold soiled linen away from uniform and place in laundry hamper, not on the floor.

d. Provide clean blankets for each new hospital patient. Use cotton blankets for safety and economy of laundering.

e. Following Army Medical Department policy, use plastic protective cover on all mattresses and pillows. Add a rubber or laminated cotton drawsheet to protect the bottom or foundation sheet p.r.n.)

f. When standard cotton bedspreads are not available, use a top sheet as a blanket cover.

5–12. Unoccupied Closed Bed

This is a bed made after terminal cleaning of a bed unit. The top covers are not folded back in order to maintain clean inner surfaces.

EQUIPMENT

Cotton blanket, 1
Sheets, 2 (or 3 when one is used as a spread)
Pillowcases, 1
Bedspread (when available)

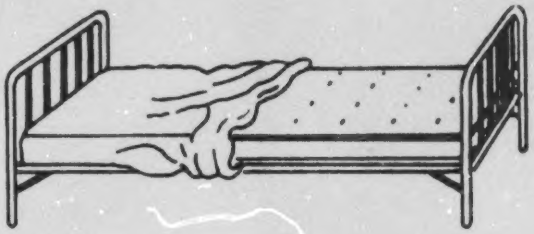
PROCEDURE

General Steps

1. Check to see that plastic mattress cover and plastic pillow cover are in good condition. Replace p.r.n.
2. Obtain clean linen from linen closet. Place in order of use on chair—pillow, pillowcase, spread, blanket, and sheets on top.
3. Move bedside cabinet out of the way. Place chair to one side.
4. Adjust gatch to level position. Turn bed crank handle in. Turn swivel lamp back and up out of the way.
5. Push mattress to head of bed.
6. Tighten mattress cover from the head of the bed toward the foot of the bed to smooth out all wrinkles.

MATTRESS COVER (PLASTIC OR COTTON)

Fold cover back on itself. Place top corner of mattress into cover, far corner first, flap of cover on top of mattress. Pull cover down on mattress, working each side alternately. Fold under excess at foot. Smooth out cover. Tighten at sides.

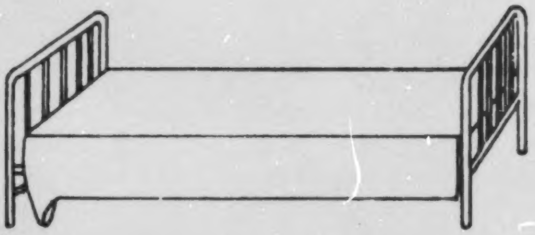


MAKING BED

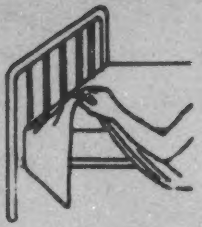
Make bed in following steps, completing one side before going to the opposite:

Bottom Sheet.

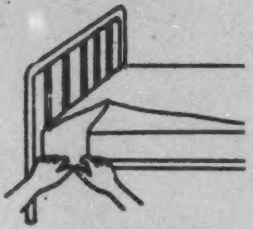
Step 1. Place bottom sheet on mattress. Center lengthwise, fold at midline, hem seam down, bottom hem even with foot edge. Unfold sheet across bed. Tuck surplus under head of mattress. Pull excess sheet taut and smooth over top edge of mattress, tightening it from underside of mattress.



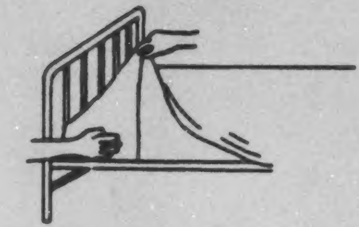
Step 2. To miter the corner, pick up hanging side of sheet edge about 12 inches from head of mat[illegible]s. Lay back on mattress in a triangle fold.



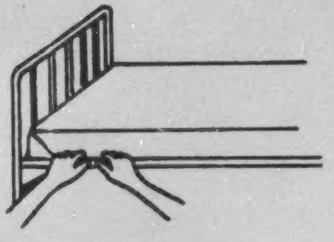
Step 3. Tuck hanging corner of sheet under mattress, holding hands palm down to protect knuckles from bedspring.



Step 4. Place hand at side of mattress and even with top edge. Bring triangle fold down over hand to insure firm, smooth mitered corner.

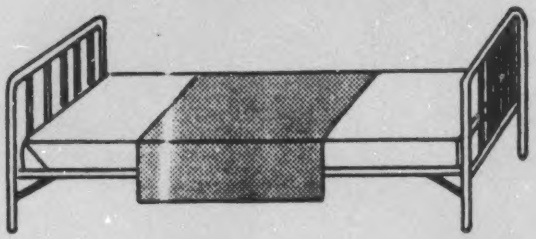


Step 5. Tuck sheet under mattress working from top to bottom. If mitered properly, sheet will be smooth and neat when bed is occupied and when gatch is elevated.

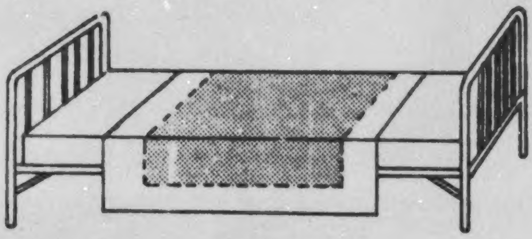


To Protect Bottom Sheet p.r.n.—

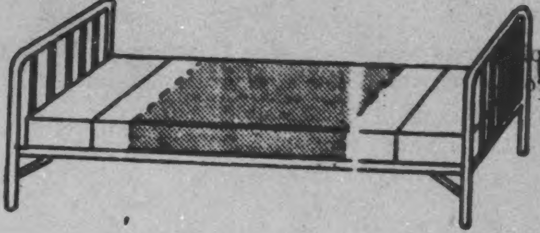
- Add standard laminated cotton protective sheet. (Use rubber sheet when this is not available.) Place protective sheet over bottom sheet so that middle third of bed is covered. Tuck it under mattress on side of bed.



- Add cotton draw sheet. The draw sheet is a large sheet folded in half, hem to hem, smooth side of hem on outside. Place folded edge toward head of bed, centering sheet on bed and overlapping protective sheet by 2 or 3 inches at [illegible]p and bottom.

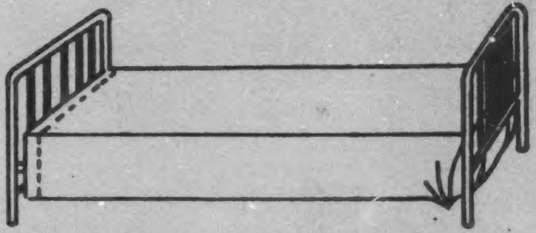


- Tuck sheet smoothly under the side of the mattress.

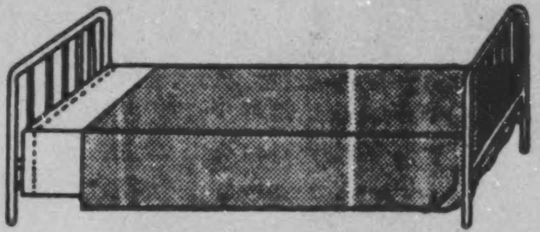


Top Sheet

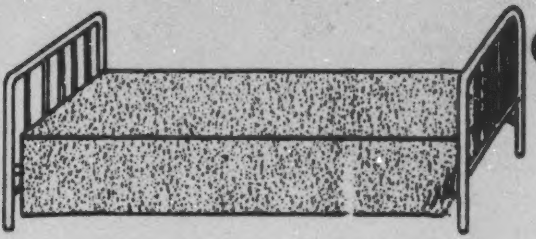
Step 6. Center top sheet on foundation, hem seam up, even with head edge of mattress, surplus at foot.



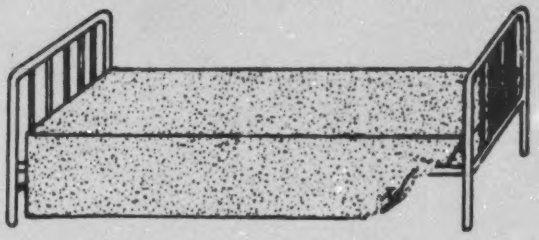
Step 7. Center blanket with edge approximately 8 inches (one handspan) from head edge of mattress, surplus at foot.



Step 8. Center spread (or sheet) with edge even with head of mattress, surplus at foot.



Step 9. Place hand under foot end of side of mattress to hold foundation sheet taut while raising mattress slightly. Smooth and tuck top sheet, blanket, and spread under foot of mattress. Miter corner. Leave side of top covers hanging free.



Step 10. Go to opposite side of bed and complete bed making.

- In sequence, fold back the spread, blanket, top sheet and, if used, the drawsheet and protective sheet, to the center of the bed.
- Smooth and straighten the foundation sheet, mitering the top corner and pulling the sheet taut while tucking the side under the mattress from head to foot. If used, pull the protective and draw sheets taut and tuck under the mattress.
- Bring over the top covers in succession. Tuck under at foot and miter corner.
- Do not form a cuff unless bed is being prepared for patient occupancy—the closed bed is then an "open bed." Fold top edge of spread under the blanket edge, bring top sheet over to form a cuff, and fanfold bedding down toward the foot.

Pillowcase

P[illegible] pillowcase on pillow (fig. 5-4). Fit pillow into t[illegible] corner or on one side and pleat excess under at opposite side. Place pillow neatly at head of bed, with open end of case away from the door.

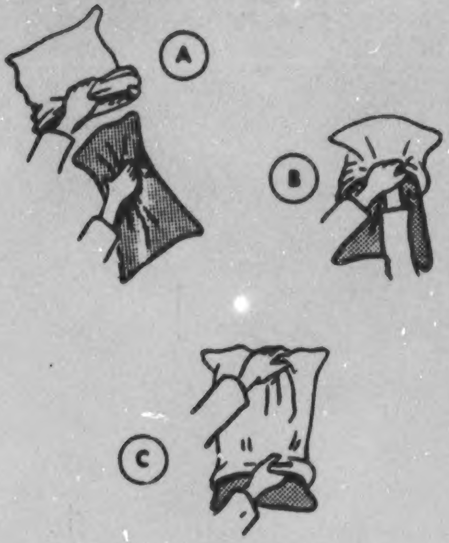
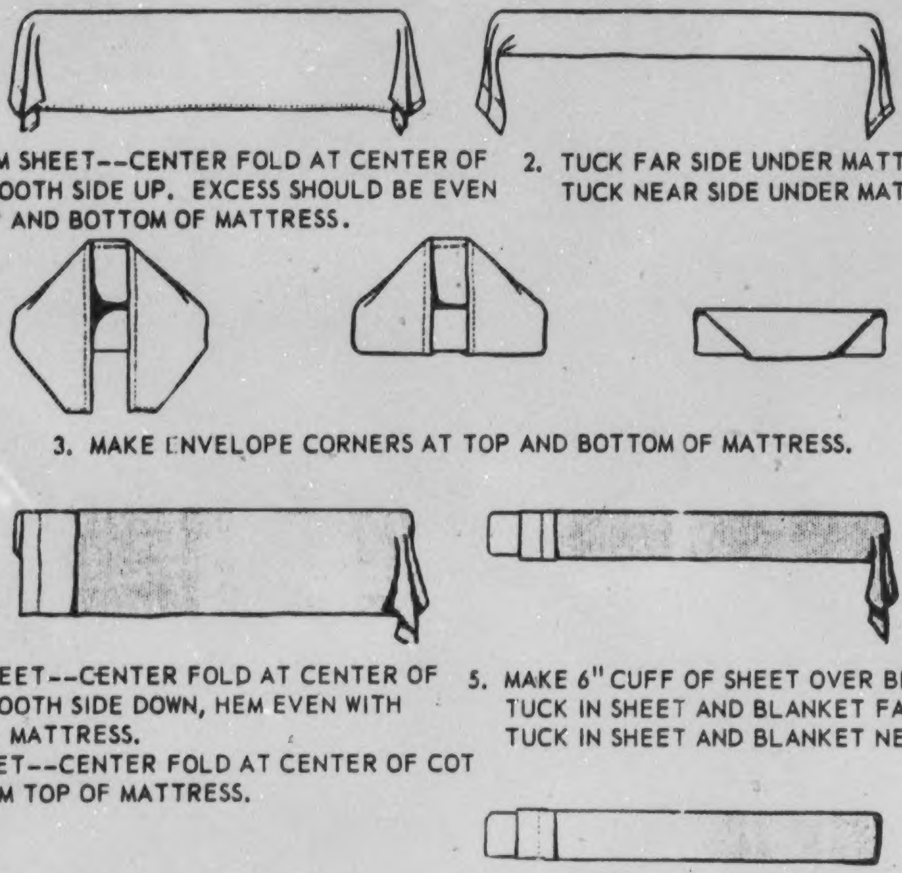


Figure 5-4. Putting on a pillowcase.

FOLDING COT

This cot may be used in the field. It is narrower than the standard hospital gatch bed, and a lightweight pneumatic (air-filled) mattress may be used with it. The cot may be made with envelope corners (fig. 5-5), which will anchor the sheet under the narrow, lightweight mattress better than mitered corners. The envelope corner is recommended also for the foundation sheets covering the wheeled litter and the child's crib mattress.



1. BOTTOM SHEET--CENTER FOLD AT CENTER OF COT SMOOTH SIDE UP. EXCESS SHOULD BE EVEN AT TOP AND BOTTOM OF MATTRESS.
2. TUCK FAR SIDE UNDER MATTRESS. TUCK NEAR SIDE UNDER MATTRESS.
3. MAKE ENVELOPE CORNERS AT TOP AND BOTTOM OF MATTRESS.
4. TOP SHEET--CENTER FOLD AT CENTER OF COT SMOOTH SIDE DOWN, HEM EVEN WITH TOP OF MATTRESS.
   BLANKET--CENTER FOLD AT CENTER OF COT 6" FROM TOP OF MATTRESS.
5. MAKE 6" CUFF OF SHEET OVER BLANKET. TUCK IN SHEET AND BLANKET FARSIDE. TUCK IN SHEET AND BLANKET NEARSIDE.
6. MAKE ENVELOPE CORNER AT FOOT OF MATTRESS.

Figure 5-5. Making a cot.

5-13. Occupied Open Bed

This procedure is followed for routine daily bed making when the patient is out of the bed. Linen is changed as required, in accordance with local ward policy.

EQUIPMENT

Daily allowance of clean linen (may be 1 sheet, 1 pillowcase, 1 towel, and 1 washcloth, or in accordance with linen-control policy)
Washbasin containing detergent-germicide solution
Cleaning cloth
Clothes hamper
Paper bag

PROCEDURE

1. Check unit for clean linen. Obtain clean linen as required.
2. Assemble materials at bedside, placing clean linen in order of use on chair. Move bedside cabinet and chair out of the way, and adjust bed to level position. Turn bed crank handle in.
3. Strip the bed and tighten mattress cover, from head to foot. In stripping a bed:

- Remove soiled pillowcase and place in clothes hamper. Place pillow against chair back.
- Loosen all linen while moving around bed, raising mattress slightly and lifting linen edges free. Do not tug linen and snag on springs.
- If any item of linen is to be reused, fold linen as it is removed from the bed; place this linen on the chair seat. Roll soiled linen as it is removed; place this linen in the clothes hamper.

CAUTION

> Avoid letting soiled linen touch your clothing or the floor. (If linen hamper is not available within or adjacent to the bed unit, hang the used pillowcase on the back of the chair to receive soiled linen.) Carefully fold or roll linen off the bed to avoid fanning it in the air.

4. Complete bed foundation and top covering, steps 1 through 10, paragraph 5-12. Form a cuff and fanfold top bedding half-way to foot of bed (fig. 5-6).
5. Replace pillowcase and pillow.
6. Damp-dust bed cabinet, bedframe, and chair.
7. Realine bed, bed cabinet, and chair. Turn bed wheels in and lock.

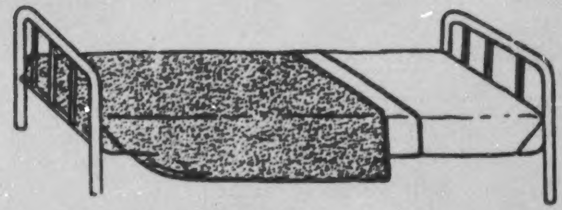


Figure 5-6. Final step for occupied bed.

8. Hang clean paper bag by securing tab edge between surfaces of bed cabinet top. Tear down sides of bag to form 2-inch tabs. Fold the three sides outward to form a cuff. (The fourth side is the hanger). Folding in this manner provides clean surfaces for handling.
9. Leave unit clean, orderly, and ready for occupancy. Check to see that lamp and signal cord are replaced for patient use.
10. Discard waste. Wash and sanitize washbasin.
11. Wash hands.

5-14. Patient Occupied Bed

Changing bed linen and making a neat comfortable bed while it is occupied by a patient usually follows the completion of a cleansing bed bath. It provides excellent opportunity for patient-centered conversation and for instructing the patient how to move, turn, conserve energy, and maintain good body alinement. If the patient is unconscious or helpless, two individuals should work together. The assistant helps to turn and hold the patient. The operator gives instructions and performs the procedure. When an assistant is not available to help turn and hold a helpless patient, the side rails of the bed opposite the operator must be raised and latched in position to protect the patient from rolling out of bed.

EQUIPMENT

Sheets, 2
Protective sheet p.r.n.
Cotton drawsheet p.r.n.
Pillowcase, 1
Clothes hamper

PROCEDURE

1. Remove pillow. Lower bed gatch for a level bed if allowable.
2. Loosen bed linen while moving around bed, raising mattress slightly and lifting linen edges free. Do not tug linen and snag on springs.
3. Pull mattress up to head of bed p.r.n.

4. Remove spread and blanket, leaving top sheet as a cover for the patient.
5. Assist patient to turn toward you, to side of bed, keeping his body covered with the sheet. If required, raise and latch bedside when patient's position has been adjusted.
6. Go to opposite side of bed. Place chair in convenient location.
7. Roll all bedding in layers close to the patient's back. Smooth and tighten mattress cover from top to bottom.
8. Place clean foundation sheet on exposed section of mattress, hem seam down, center fold in midline of bed, folded against patient, bottom edge even with foot of mattress. Tuck under top edge, miter corner, smooth and tuck side under, moving from head to foot.
9. Replace protective sheet, if used. Hold linen folds in place in center of bed with one hand, and bring rolled protective sheet back over linen folds to clean foundation. Place clean cotton drawsheet over protective sheet, rolling excess folds toward patient. Smooth and tuck under the sides of both sheets to complete near side of foundation.
10. Tuck all linen folds under patient as smoothly as possible. Assist patient to roll over linen folds to the clean foundation side.
11. Secure side of bed, if needed, before going to opposite side of bed.
12. Go to opposite side of bed. Pull rolled linen through. Keep clean linen close to patient's back; remove soiled linen. Tighten mattress cover, head to foot. Complete foundation.

NOTE

If protective sheets (or a drawsheet only) are used, pull taut and wrinkle free by tightening center portion first, then upper and lower ends.

13. Turn patient to center of bed. Center clean top sheet over patient. Instruct patient to hold clean top sheet while you remove soiled sheet from underneath, pulling gently from top to bottom. Place soiled sheet in clothes hamper.
14. Replace blanket and spread, instructing patient to dorsiflex feet to be sure top bedding is loose enough before tucking under and mitering corners at the foot.
15. Complete cuff at head of bed. Fold down top bedding to level comfortable for the patient.
16. Place clean case on pillow. Replace pillow. Adjust bed gatch as needed. Adjust sides of bed as needed.
17. Place bedside cabinet and signal within patient's reach.
18. Damp-dust unit. Attach clean paper bag. Hang clean towels and washcloth in proper place.
19. Remove all unnecessary equipment and articles from unit. Leave unit clean and orderly.
20. Return clothes hamper to storage area. Discard waste. Wash and sanitize equipment that is returned to utility room. Wash hands.

Section III. APPLICATION OF BODY MECHANICS

5–15. Body Posture and Body Mechanics

The medical specialist must know how to use his own muscles in order to instruct his patients how to use theirs. The combination of good posture and the use of proper body mechanics benefits both personnel and patients. The benefits include making the most efficient use of muscles, promoting normal body functions, avoiding strain and fatigue, and preventing deformity.

a. Posture. Posture is body alinement, the relative position of body parts standing, sitting, lying down, or participating in any other type of activity. Posture determines the distribution of body weight and the consequent pull on muscles and joints. It affects the size and shape of body cavities, which, in turn, affect the position of the viscera. Body functions of circulation, respiration, digestion, and joint action are directly affected by posture. Good posture is body alinement which favors normal function and which requires the least strain to maintain.

(1) *In standing position.* Back should be straight; feet firmly on the ground, about 4 to 6 inches apart to give an adequate base of support, with the toes pointing straight ahead or slightly toed out; head and rib cage held high; chin, abdomen, and buttocks pulled in; and knees slightly bent.

(2) *In sitting position.* Back should be straight, with weight resting equally on buttocks and under surface of thighs (not on the base of the spine).

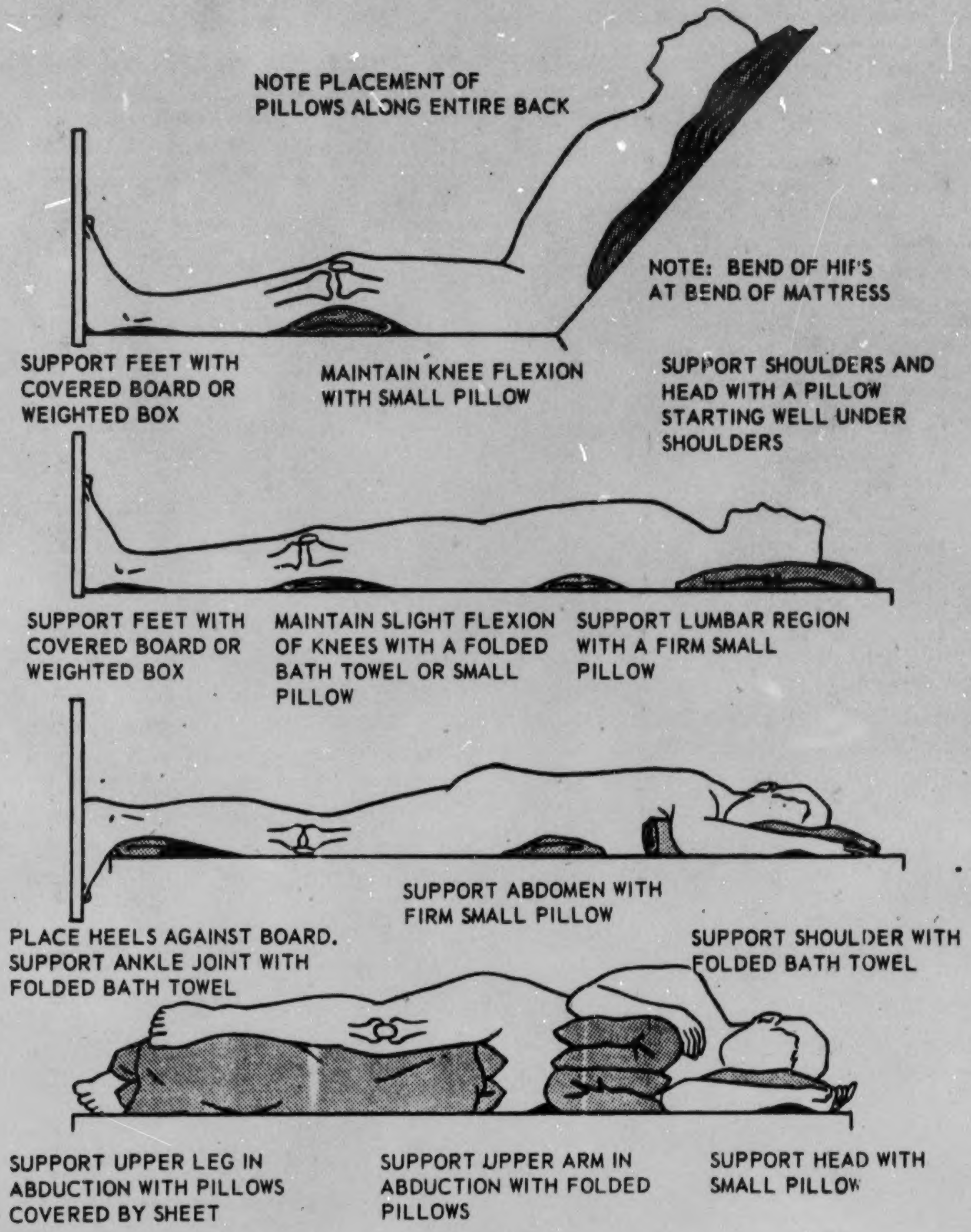

NOTE PLACEMENT OF PILLOWS ALONG ENTIRE BACK
NOTE: BEND OF HIPS AT BEND OF MATTRESS
SUPPORT FEET WITH COVERED BOARD OR WEIGHTED BOX
MAINTAIN KNEE FLEXION WITH SMALL PILLOW
SUPPORT SHOULDERS AND HEAD WITH A PILLOW STARTING WELL UNDER SHOULDERS
SUPPORT FEET WITH COVERED BOARD OR WEIGHTED BOX
MAINTAIN SLIGHT FLEXION OF KNEES WITH A FOLDED BATH TOWEL OR SMALL PILLOW
SUPPORT LUMBAR REGION WITH A FIRM SMALL PILLOW
SUPPORT ABDOMEN WITH FIRM SMALL PILLOW
PLACE HEELS AGAINST BOARD. SUPPORT ANKLE JOINT WITH FOLDED BATH TOWEL
SUPPORT SHOULDER WITH FOLDED BATH TOWEL
SUPPORT UPPER LEG IN ABDUCTION WITH PILLOWS COVERED BY SHEET
SUPPORT UPPER ARM IN ABDUCTION WITH FOLDED PILLOWS
SUPPORT HEAD WITH SMALL PILLOW

Figure 5-7. Positions for patient's comfort and body alinement.

b. Body Mechanics. This is the coordinated use of body parts to produce motion and to maintain [illegible]nce. The use of good body mechanics pro[illegible]tes the efficient use of muscles and conserves energy. The following principles apply to any moving or lifting activity:

(1) Face the direction of movement.

(2) Use large muscle groups of the legs, arms, and shoulders to lessen strain on back and abdominal muscles.

(3) Bring the object to be lifted or carried as close to the body as possible before lifting. (This keeps both centers of gravity close together.)

(4) Bend the knees and keep the back straight when leaning over a work level.

(5) Kneel on one knee, or squat, and keep the back straight when working at floor level.

(6) Push, pull, slide, or roll a heavy object on a surface to avoid unnecessary lifting.

(7) Obtain help before attempting to move an obviously unmanageable weight.

(8) Work in unison with an assistant. Give instructions and agree on the signal to start the activity.

5[illegible]. Moving and Positioning the Bed Rest Patient

a. Importance. Purposeful movement and positioning of a patient who is on prescribed bed rest is necessary to maintain good posture and to preserve and restore normal body function. While bed rest is an important part of treatment, a patient cannot be allowed to lie motionless and in any one position for extended periods of time. The nursing care of a patient in a standard hospital bed is discussed here; modifications of care when a turning frame is used are discussed in section XI.

b. Nursing Care Responsibility. The specialist responsible for nursing care of the patient must know the reason why bed rest is ordered and how much physical effort and movement by the patient is allowable. If the patient is unable to move himself, he must be moved and repositioned at least every 2 hours day and night. If the patient is able to move himself, he must be encouraged to do so and must be checked to see that his movements are purposeful and that his posture is good.

(1) Tell the patient what is to be done and h[illegible]t is to be done in order to use proper body mechanics.

(2) Plan several alternate positions (fig. 5–7) to provide comfort, support, and good body alinement. A patient with a painful disorder is understandably reluctant to change a position that seems to be comfortable. He, therefore, tends to favor a position that usually involves minimum movement. Continued favoring of this position may result in contracture deformity. This is a shortening of the normal range of a joint movement and is very disabling. The continuous use of the head and knee rest, for example, favors development of contractures at the hip and knee. An effective preventive position is flat on the abdomen, legs extended, feet over the edge of the mattress, toes pointing to the floor. This is a position a patient seldom places himself in voluntarily.

c. Modifications of Bed Rest Positions. These include supine (back-lying), prone (front-lying), lateral recumbent (on either side), and Fowler's position (semiupright with back and knee rests elevated), plus being lifted from bed to sit in a chair. All of these position changes provide alternate weight-bearing surfaces to relieve pressure, improve circulation, and preserve muscle function as different muscle groups contract and relax. The patient will actually look and feel better as he gains strength and self-confidence.

d. Body Alinement in Bed. The following points should be checked to insure good body alinement, whether the patient is lying on his back, abdomen, or side:

- Head in midline with the trunk.
- Back straight, with normal body curves (cervical, thoracic, and lumbar) maintained.
- Ribs elevated to prevent constriction of the chest.

The arms and legs should be in a position of function (the position for maximum usefulness of the joints, feet, and hands).

(1) Position of function of legs and feet. This position favors standing upright and walking. In general, if the toes point to the ceiling when in back-lying position and point to the floor when in front-lying position, the feet, legs, and hips are in good alinement.

(2) Position of function of arms and hands. This position favors raising the arms and grasping things with the fingers. The hand should not droop at the wrist, be clenched in a fist, or be flat. The position of function for the hand is dorsiflexion (at a slight upward angle) at the wrist, with

the fingers and thumb in position to write with a pencil.

5–17. Safety in Moving and Lifting Activities in Patient Care

The use of body mechanics enables the medical specialist to perform moving and lifting activities while avoiding back strain. The methods described apply to moving patients (or objects of similar weight) while standing at a hospital bed working level.

a. Preparation of Body for Lifting Movement. Before starting to move or lift a patient or an object, prepare your body for the lifting movement as follows:

(1) Stand with feet apart, one foot advanced (fig. 5–8 Ⓐ), facing the side of the bed.

(2) Lower body to working level by flexing the knees while keeping the back straight (fig. 5–8 Ⓑ).

(3) Lean forward and slide arms under the patient, keeping the elbows close to the body, and the back straight.

(4) Set pelvis for moving the patient by tensing (constracting) simultaneously the abdominal and gluteal muscles (fig. 5–8 Ⓒ).

b. Movement of the Patient.

(1) To move the patient toward you, let the arms holding the patient slide on the surface toward you while shifting your weight backward from front to rear foot (fig. 5–9 Ⓐ).

(2) To move the patient away from you, let the arm holding the patient slide on the surface away from you while you shift your weight forward from rear to front foot (fig. 5–9 Ⓑ).

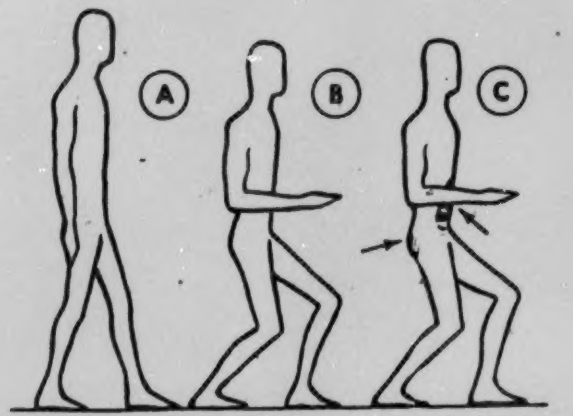


Figure 5–8. Body in correct position for moving or lifting.

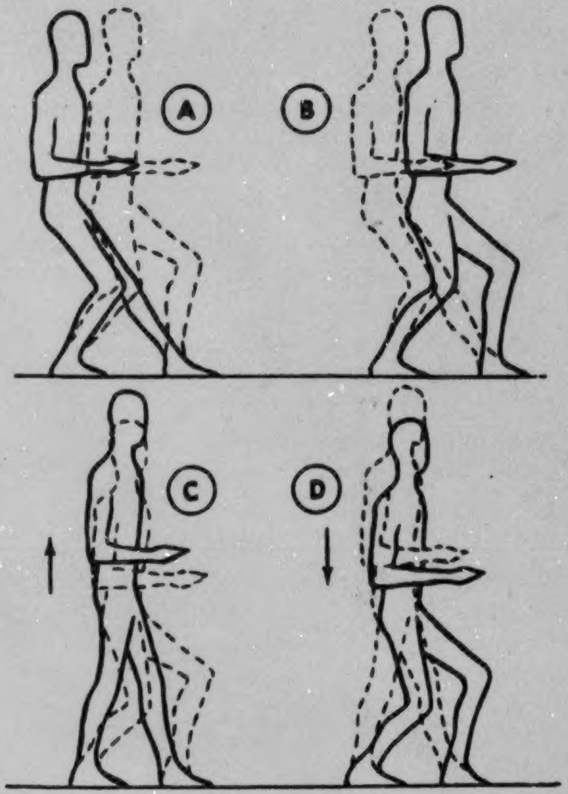


Figure 5–9. Body in motion when moving or lifting.

(3) To lift the patient, first move the patient toward you. This keeps the centers of gravity close together. Keeping elbows close to your body, straighten your knees to equalize weight on both feet (fig. 5–9 Ⓒ). Support the weight of the patient against the chest as you shift your weight backward.

(4) To lower the patient to the bed surface, flex the knees to lower your body to working level (fig. 5–9 Ⓓ). Shift your weight forward as you lower the patient to the bed surface.

5–18. Methods of Moving and Positioning Patients in Bed

a. General. Application of the principles of body mechanics provides safe, efficient, and comfortable means of moving and positioning patients who can and cannot assist themselves. Preparation for these procedures includes—

(1) Knowing what the patient can do and should be encouraged to do in order to assist. Check doctor's orders and nursing care plan card.

(2) Telling the patient exactly what is to be done and what he can do to help.

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(3) Obtaining necessary equipment and arranging it conveniently at the bedside.

(4) Obtaining necessary assistance before trying to move an unmanageable patient.

(5) Starting with the bed flat (if tolerated by patient) and with the bed wheels locked.

b. Moving a Patient Up in the Bed. There is a tendency for the mattress and the patient to slip down when the head of the bed has been elevated. Lower the head gatch to level position and move the mattress up before repositioning the patient, as free space at the foot of the bed is needed to adjust bedding.

(1) *To move the mattress up.* This procedure is used when the patient can assist; stand behind the head of the bed and grasp mattress; flex knees slightly, advancing one foot; tell patient to bend knees and to raise buttocks off the bed on signal; give signal, brace forward thigh against bed and slide mattress and patient up. If patient cannot assist, ask for help. Instruct the assistant to stand at the opposite side of the bed and grasp the mattress. On signal, slide mattress and patient up.

(2) *To move the patient up.* Pull pillow upright; tell patient to reach back and grasp the bars at the head of the bed and bend his knees; slide one arm under the patient's shoulders and the other arm under his buttocks (fig. 5-10); on signal, have the patient pull with his arms and push with his feet while you slide him upward.

NOTE

When patient cannot assist, the assistant and specialist, standing on opposite sides of the bed, slide their arms under the patient's back and thighs, and in unison, both shift their weight and slide the patient up.

(3) *To use a drawsheet.* A drawsheet may be used to help move a helpless patient. An assistant is needed. Loosen the sheet and roll close to either side of the patient's body. In unison, grasp the rolled sheet and slide sheet and patient upward. Then smooth the loosened sheet free of all wrinkles, tighten, and tuck under the sides of the mattress.

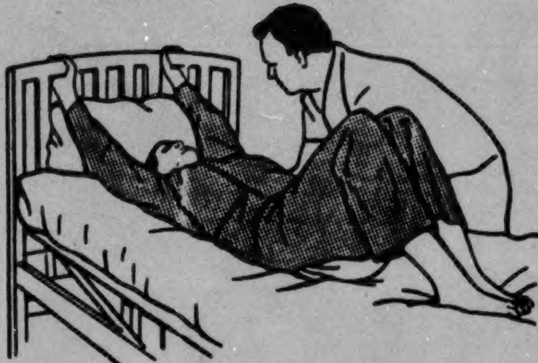
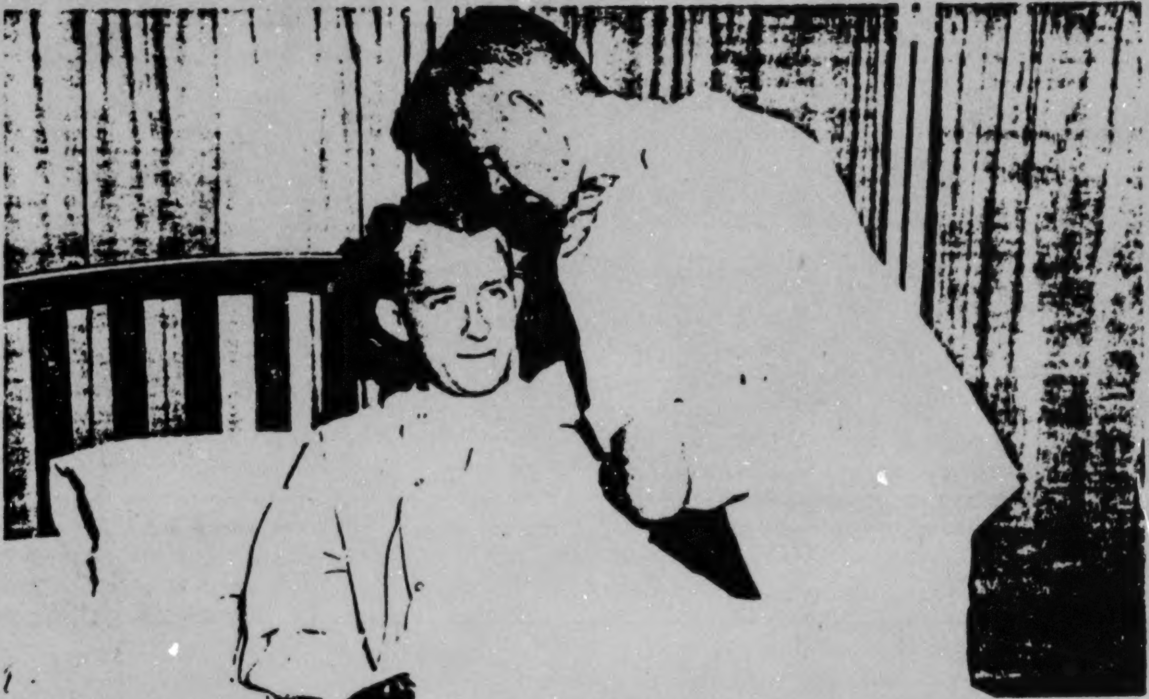


Figure 5-10. To move a patient up in bed.

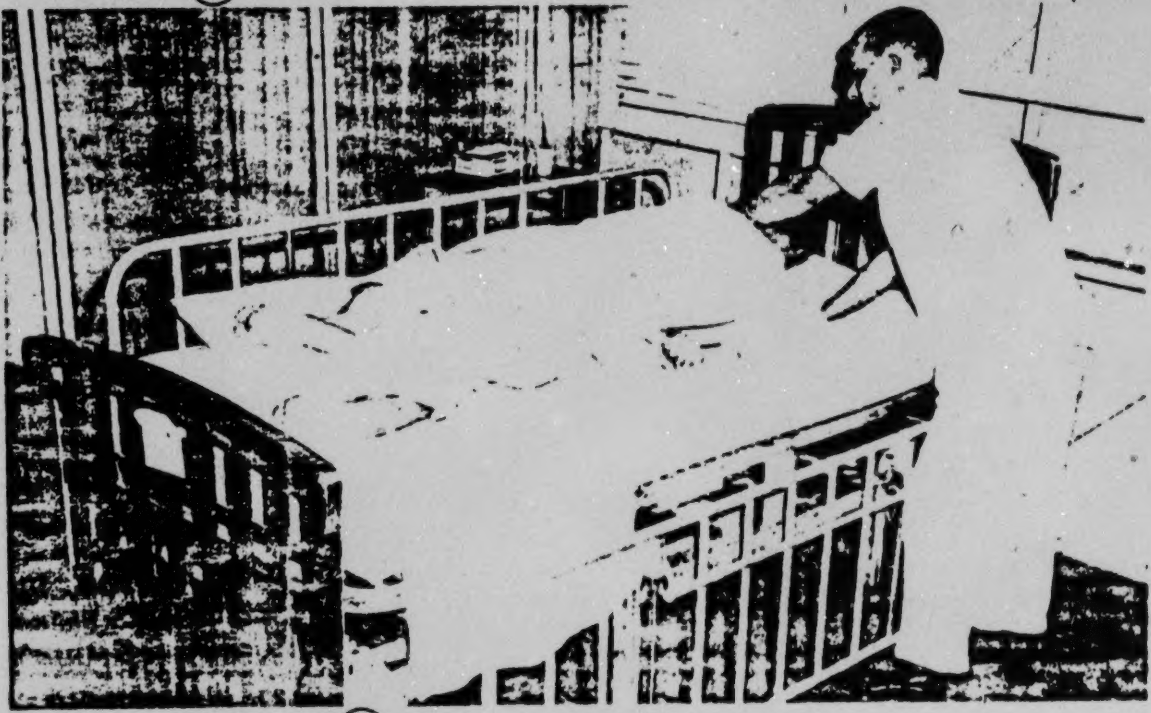
c. Assisting a Patient to Raise Head and Shoulders. This procedure is used to remove or to replace the pillow or to assist the patient into a sitting position. Stand facing the head of the bed with one foot advanced. Slip arm nearest patient under his axilla and brace this hand against the back of his shoulder. Tell him to bend his knees to relieve strain on his abdominal muscles and to brace the hand of his supported arm against your shoulder. By linking arms, you and the patient make use of shoulder and chest muscles to lift body weight (fig. 5-11 Ⓐ). This linking of arms provides mutual support. At the given signal, raise his back and shoulders by shifting own weight from front to rear foot. Use free hand to support his head or to remove or replace the pillow.

d. Moving a Patient to the Side of the Bed. Bringing a patient close to the side of the bed brings both centers of gravity closer, so all other moving and turning procedures will require less strain. When working alone, move the patient's body part by part: To move upper body, slide one arm under his head and shoulders and one arm under his back; then slide his upper body toward you. To move lower body, slide one arm under his hips and one under his thighs, then slide lower body toward you. Realine shoulders, hips, and legs.

e. Turning a Patient on His Side. When working alone, always turn the patient toward you. Stand on the side of the bed toward which the patient is to be turned. Flex his knees toward you. Place one hand on his far shoulder and the other on his far hip. Bracing your body against the side of the bed, gently roll the patient toward you. Now go to the opposite side of the bed. Slide arms under the patient's hips and draw his hips toward you, toward the center of the bed. Flex his upper leg forward on his extended lower leg to prevent him from rolling backward. Check shoulder aline-



(A) ASSISTING A PATIENT TO RAISE HIS HEAD AND SHOULDERS



(B) TURNING A PATIENT ON HIS SIDE

Figure 5-11. Moving and positioning a patient.

ment. His lower arm should be in front of his chest or extended along his back, but not caught under his body (fig. 5-11 Ⓗ). Return to original side of the bed. Arrange pillow to support head. Use two additional pillows to support upper arm and upper leg to maintain shoulder and hip alinement.

5-19. Body Mechanics in an Arms-Carry Lift From Floor to Bed Level

There will be occasions in both field and fixed hospital situations when a patient must be lifted from the floor to a bed or wheeled litter. A minimum of three bearers is necessary for a heavy patient but two bearers may be adequate for lifting a light-weight patient. The bearer lifting the patient's head and shoulders instructs the patient and gives all commands. The sequence of the steps in the procedure are safety factors. Each step promotes distribution of both bearer's and patient's weight and protects the bearer's back from strain while lifting and rising from floor to bed level. The medical specialist who knows how to use his own muscles can thus concentrate on the safety and comfort of the patient.

PROCEDURE

(fig. 5-12)

1. Place the bed or stretcher to receive a patient lifted from the floor at the far side of the patient and parallel to him. Lock the wheels of the bed or stretcher. All bearers kneel on the knee nearest the patient's feet. Each bearer slides his arms under the patient at a space interval which allows the bearer's elbows to be held close to his body, while supporting the patient's shoulders, back, hips, and thighs.
2. At the command, all lift in unison, shifting weight backward, and carrying the patient to a support position on their braced thighs (the thigh toward the patient's head).

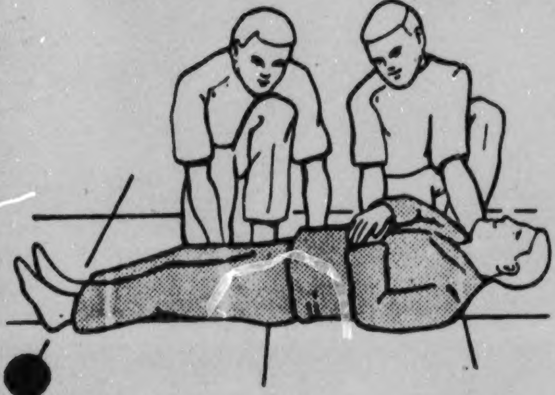


Figure 5-12. Arms-carry lift from floor to bed level.

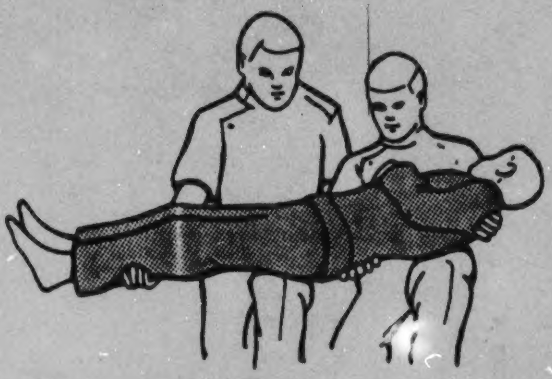


Figure 5-12—Continued

3. At the command, all lift and turn the patient inward toward their chest, while with back straight, all rise to standing position.

NOTE

This is a key maneuver for proper weight distribution. Attempting to rise to a standing position while supporting the patient's weight on the outstretched forearms will cause a severe strain.

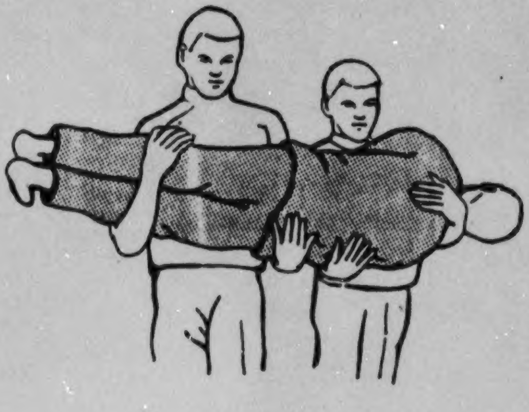


Figure 5-12—Continued

4. To lower a patient to a bed placed parallel, all step forward to the side of the bed. Flexing the knees, shifting the weight to the front foot, and keeping the back straight, lower the patient gently to the bed.

5-20. Assisting the Patient Out of Bed

"Out of bed" may be for transportation only or it may be a series of progressive changes in posture

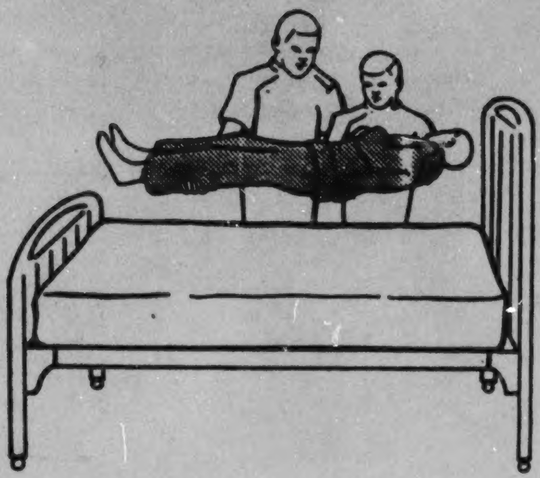


Figure 5-12—Continued

and activity for a bed patient. As in any movement or position change, find out in advance how much activity is permissible and encourage the patient to assist himself within those limits.

MOVEMENT FROM BED TO CHAIR

This usually represents the first change of a bed patient from a supine to an upright position. All movements must be deliberate to allow for neurocirculatory adjustments. Check pulse, respiration, and skin color before moving the patient and again after he is settled comfortably in the chair. Watch for dizziness, faintness, and fatigue. The first time up usually lasts no longer than 30 minutes and, unless otherwise specified, is combined with ambulation.

1. Check the patient's pulse, respiration, and skin color before moving.
2. Place the chair parallel to the side of the bed and toward the foot. If wheelchair is used, brace the wheels and move footrests to one side. If a blanket is needed, place open blanket in chair.
3. Fold covers to foot of the bed.
4. Assist the patient, dressed in pajamas, to sit upright and to pivot his legs over the edge of the bed.
5. Assist patient into bathrobe. Place slippers on feet. Allow him to feel balanced and secure while sitting upright.
6. Stand facing the patient. Place hands on either side of his waist and tell him to place his hands on your shoulders (fig. 5-13). Supporting him in this position, assist him to step down from bed to stool and from stool to floor.

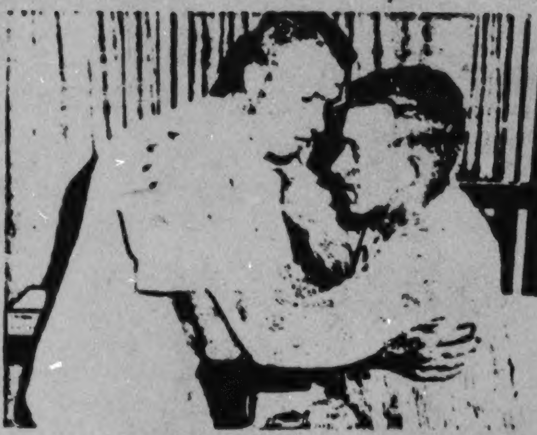


Figure 5-13. Assisting patient into an upright position.

7. Stand upright and face the patient while he supports himself on your shoulders and balances himself in an upright position.
8. Side-step together and pivot (fig. 5-14) into position for seating him well back on the chair seat. Support him with one arm and hold the chair steady as he lowers himself. If a wheelchair is used, adjust the footrests and set the brakes, or brace the chair against a support. Fold blanket, if needed, around patient and tuck ends in to prevent catching in wheels.

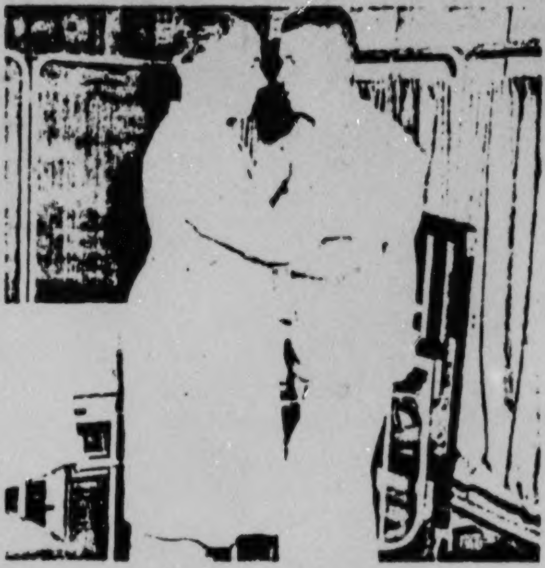


Figure 5-14. Position for pivoting patient.

9. Straighten or make the bed as soon as the patient is settled comfortably. Fold covers to foot in preparation for his return to it.
10. Check his pulse, respiration, and skin color.

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Lifting a Patient to a Chair

A patient unable to stand upright is transferred [illegible] a chair by a 2-man, 4-hand carry (fig. 5-15). This procedure is recommended for lifting a patient to a bedside commode or lifting a patient with foot injuries to a chair.

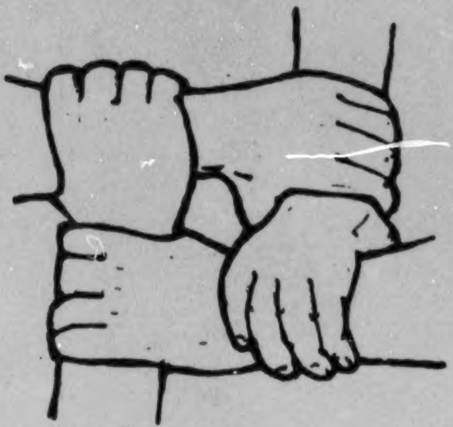

Figure 5-15. Two-man, four-hand carry.

1. Check the patient's pulse, respiration, and skin color.
2. Sit the patient upright on the side of the bed.
3. Standing on either side of the patient, interlock hands to form a seat for the patient. Tell the patient to support himself by placing an arm around each neck.
4. Carry the patient to the chair and lower him on to the seat.
5. Check his pulse, respiration, and skin color.

MOVEMENT FROM BED TO STRETCHER

One to three assistants are needed, depending upon the size, weight, and condition of the patient.

Using a Drawsheet

1. The patient is moved to the side of the bed. The drawsheet is loosened and rolled close to the patient.
2. The stretcher is placed parallel to the patient's side of the bed, with bed wheels and stretcher wheels locked.
3. If two assistants are available, they should both stand at the far side of the stretcher, lean over and each assistant grasp the drawsheet with one hand. The assistant nearest the patient's head should slip his free hand under the patient's head and shoulders for support. The second assistant should use his free hand to support the patient's legs. If three assistants are available, one assistant should stand at the head of the stretcher and prepare to support the patient's head and shoulders. The second assistant should stand at the far side of the stretcher, lean over, grasp the drawsheet and prepare to lift. The third assistant should be at the foot of the stretcher and prepare to support the patient's legs. At a signal, all lift in unison, shifting weight to transfer the patient to the stretcher (fig. 5-16).

NOTE

> The drawsheet is usually left in place under the patient to return the patient to bed.

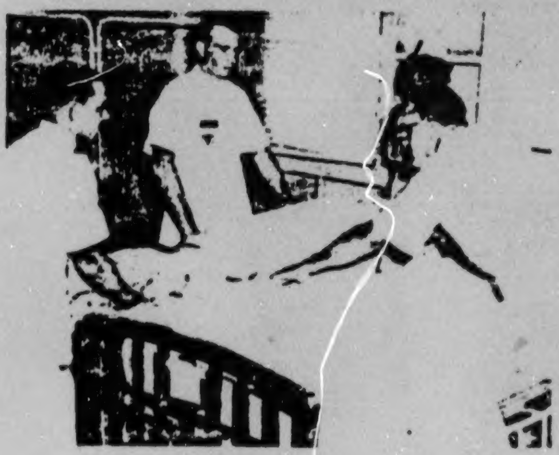

Figure 5-16. The drawsheet lift from bed to stretcher.

Using a 3-Man Carry

1. The stretcher is placed at a right angle to the bed with its head toward the foot of the bed. The patient is moved to the corresponding side of the bed, while bearers stand parallel to the bed.
2. Number 1 man slides his arms under the patient's head and shoulders; number 2 man, under the patient's chest and buttocks; number 3 man, under the patient's thighs and calves (fig. 5-17 Ⓐ). On signal, all three lift, turning the patient in against their chests.
3. On signal, all pivot backward, with number 1 man as the axis (fig. 5-17 Ⓑ). On signal, all step forward and lower patient to the stretcher (fig. 5-17 Ⓒ).

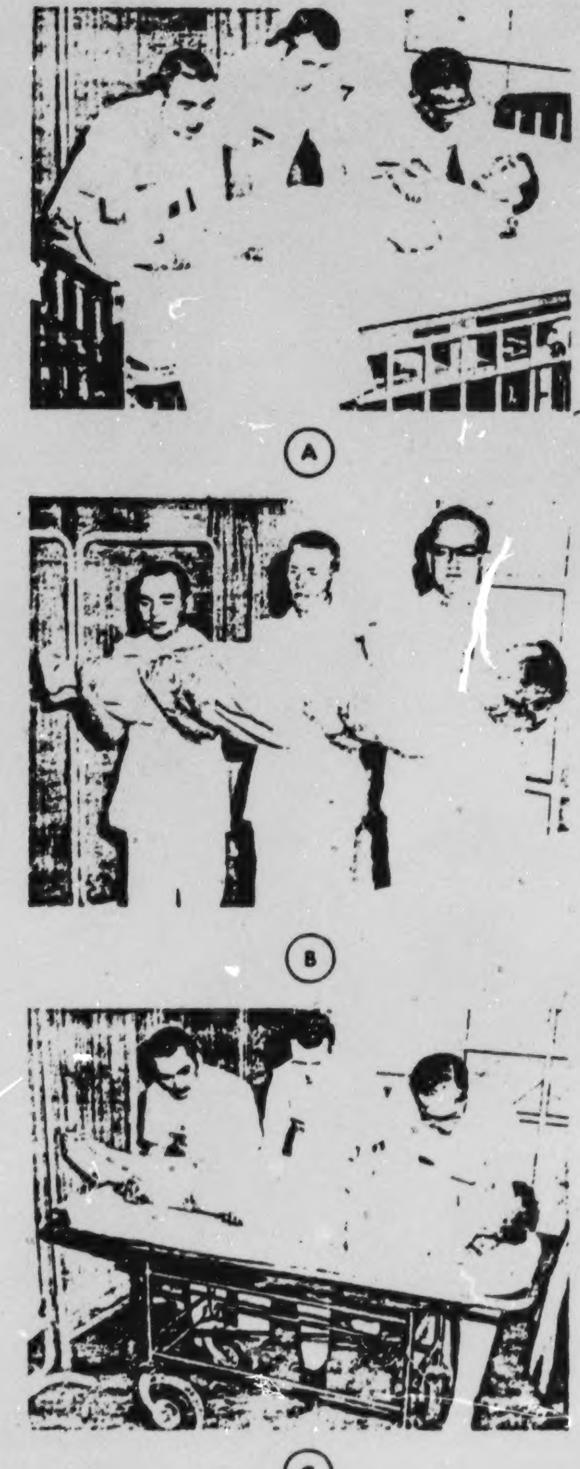

Figure 5-17. Three-man arms carry, bed to stretcher.

EARLY AMBULATION

Ambulating (walking) a patient as early in the course of his medical or surgical treatment as possible is an important part of present-day patient care. The primary purpose of early ambulation is to prevent complication of prolonged bed rest—complications such as circulatory disturbances in the legs, lung congestion, constipation, or urinary retention. It is essential to remember that although early ambulation helps a patient to recuperate and become self-sufficient, he continues to need a great deal of nursing care and nursing support while he gradually progresses through successive stages of rest and activity. The medical specialist must know how to assist a patient out of bed to an erect position while he is weak, has pain, and is justifiably apprehensive. Once out of bed, the patient walks, from a step or two to a longer distance, before returning to bed.

Conditioning Exercise Programs

1. Conditioning exercises are planned series of exercises to maintain muscle tone and strength for patients who are incapacitated by sickness and injury. They are prescribed by the doctor. In Army Medical Department facilities, the physical therapy section is consulted, and a qualified physical therapist evaluates the individual patient and plans and conducts a programmed series of exercises.

2. In general, prescribed exercises keep the principal muscle groups of the back, abdomen, and upper and lower extremities from becoming "deconditioned." Exercises for bed patients are conducted on the ward, either on an individual basis or as group instruction for selected patients.

3. Many of the programs require on-the-hour (or other interval) self-administered exercise by the individual patient as essential followup of an exercise period which has been supervised by a physical therapist. The success of the program requires understanding and wholehearted support of nursing personnel, but it is not appropriate to include instructions for administering specific exercises in this manual. The medical officer arranges for conferences and instruction of nursing personnel. Examples of exercises requiring on-the-hour followup are quadriceps setting to strengthen thigh muscles for walking and range-of-motion exercises for weakened or paralyzed arms

and legs. Planned and supervised exercises help restore the patient to his maximum capacity to carry on the activities of daily living.

Section IV. PATIENT HYGIENE AND COMFORT

5-21. Oral Hygiene

Oral hygiene (mouth care for cleanliness) is essential to the care of all patients, as the mouth normally harbors many bacteria. The patient's resistance may become so lowered during illness that severe infections of the mouth tissue may result. Mouth breathing, restricted oral fluids, elevated temperature, and other conditions that accompany illness cause drying and cracking of mouth tissues. Such conditions aid the development of infection. When a patient is too ill to care for his mouth or teeth, the medical specialist must help him or must perform the procedure for him. Ambulatory patients may need reminding to carry out self-care measures. Problems in oral hygiene should be referred to the Dental Service.

ROUTINE MOUTH CARE

Mouth care should be given at least every morning and evening to all patients, and preferably after every meal. Routine mouth care is essentially assisting a patient to brush his teeth and to rinse his mouth thoroughly, as often as needed. The purpose is to keep the mouth clean, to prevent sores and mouth odors, and to refresh the patient.

Equipment

Glass of water
Drinking tube p.r.n.
Hand towel
Toothbrush and dentifrice
Mouthwash, if desired

Procedure

Patient Able to Help Himself

1. Place the patient in a comfortable position.
2. Arrange equipment within his reach on bedside table or on overbed table.
3. Remove and clean equipment promptly when he is finished.

NOTE

> Rinse toothbrush thoroughly under running water and allow it to air dry—do not place the damp brush in cabinet.

Patient Requiring Assistance

1. Turn patient on side or if on back, turn his head to the side.

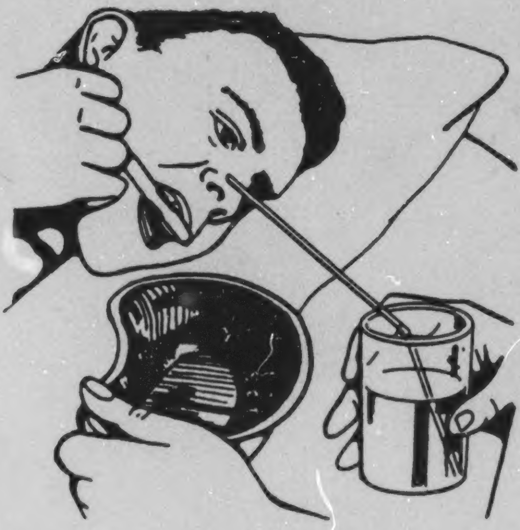

Figure 5-18. Assisting patient.

2. Place towel under his chin and over bedding.
3. Pour water over the brush; place dentifrice on it.
4. Give the patient his brush; hold basin under his chin while he brushes his teeth (fig. 5-18).
5. Let the patient rinse his mouth frequently, using the drinking tube. Encourage him to swish the rinse water vigorously, moving his cheeks, to flush away the loosened debris.
6. Remove the basin, wiping his face and lips with the hand towel.
7. Remove and clean the equipment.
8. Wash hands.

When the Patient is Unable to Brush His Own Teeth

Proceed as in "Patient Requiring Assistance," doing all steps for the patient. To brush his teeth—

1. Start with the front teeth and brush each area about 6 times, progressing from one side of the mouth to the other.

NOTE

> The surfaces of teeth next to the tongue and cheeks are the most difficult to reach and thus require the most attention.

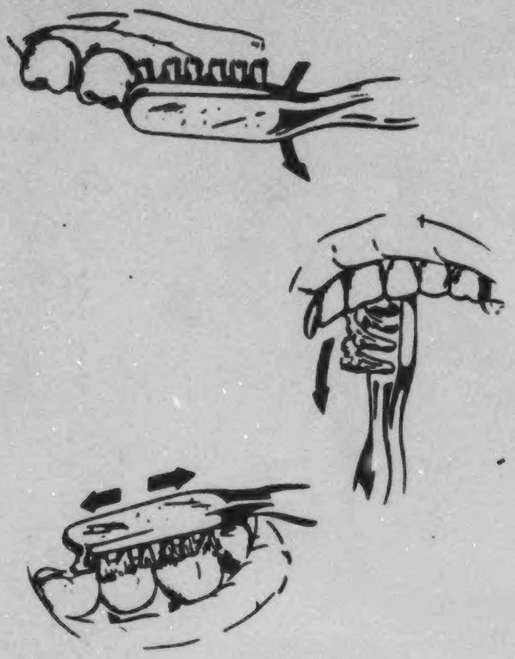

Figure 5–19. Method of brushing the teeth.

2. Brush outer and inner surfaces of the teeth from the gum margins toward the biting edges, brushing lower teeth up, upper teeth down. Use a back-and-forth scrubbing motion on the biting surfaces (fig. 5–19).
3. Finish the mouth cleansing with a gentle brushing of the tongue from back to front and with a final thorough rinsing.

CARE OF DENTURES

Give dentures the same careful cleansing as the natural teeth. The conscious patient should wear his dentures. Since many patients are sensitive about having artificial teeth, be especially considerate to spare them embarrassment. Clean dentures under running water, if possible.

NOTE

> Be sure patient cleans his mouth and any natural teeth while dentures are out of his mouth.

Equipment

Tissues
Washbasin
Toothbrush (or denture brush)
Dentifrice
Denture container

Procedure

1. Have patient remove his teeth and place them in the denture container. This may be a glass of water if a special container is not available.
2. While the patient cleans his mouth, take his denture to the sink. Give him tissues to wipe his mouth.
3. Place the basin in the sink. Brush the denture over the basin, under running water. (The basin containing water will cushion the denture if dropped.) Rinse denture.
4. Place the denture in a basin of water while cleaning denture container. Return dentures in container to patient.
5. When not in use, store dentures in a clearly marked, clean container, filled with clean water. Do not allow patient to wrap denture in tissue or handkerchief and store it in his pajama pocket, under his pillow, or in the drawer.

5–22. Special Mouth Care

Special mouth care is care required for oral hygiene that cannot be accomplished by routine tooth brushing and mouth rinsing measures. Patients with mouth injuries, oral surgery, or inflamed mouth tissues because of systemic illness or other causes are given mouth care in accordance with medical or dental orders. However, many patients, because of this general condition, require special mouth care as part of their basic nursing care; any seriously ill, unconscious, or otherwise incapacitated patient must have his mouth kept clean, moist, odor free, and refreshed. By carrying out nursing measures at regular, frequent intervals—every 1 or 2 hours, or more frequently when required—the first signs of inflammation can be detected early and reported at once to the doctor for treatment. Unless otherwise ordered, equipment and procedure for special mouth care are as follows:

EQUIPMENT

Flashlight
Cotton-tipped applicators, q.s.
Tongue blade
Glass of water
Drinking tube
Paper cup
Asepto syringe with rubber tip
Emesis basin
Hand towel
Lubricant (petrolatum ointment or liquid)
Paper bag for waste

NOTE 1

Add suction machine for the patient who is unconscious or otherwise in danger of aspirating solution.

NOTE 2

For some patients, a small (child-size) soft-bristled toothbrush may be used, alone or in combination with applicators.

PROCEDURE

1. Assemble equipment on a tray to be kept at the bedside.
2. Place patient on his side.
3. Place towel under his chin and over bedding.
4. Using tongue blade and flashlight, gently examine interior of mouth to detect any sore or bleeding areas before starting cleansing. Report these conditions immediately, in order to obtain any special instructions.
5. Pour water and mouthwash, half and half, into paper cup.
6. Moisten applicator in mouthwash solution.
7. Using tongue blade to hold mouth open and to move lips and cheeks gently away from tooth surfaces, use moistened applicator to cleanse teeth and mouth tissues, as with a toothbrush. Use fresh applicator for each section of mouth—do not redip one into clean solution. Discard after each use.
8. If possible, have patient use drinking tube to rinse mouth, first with mouthwash solution, then with fresh water.
9. If patient is unable to use drinking tube, gently irrigate mouth with asepto syringe. Use small amount of solution at one time, directing stream from rubber-tipped syringe to side of mouth to prevent choking.

NOTE

If patient is unconscious or otherwise in danger of aspirating solution, maintain suction with suction catheter at the same time solution is introduced with syringe. An assistant may be needed for this phase of mouth care.

10. Cleanse tongue, using tongue blade and applicator.

[illegible]. When cleansing and rinsing process is finished, remove basin, gently drying face and lips with towel.

12. Apply lubricant thoroughly but sparingly to lips, using clean applicator.
13. Make patient comfortable.
14. Remove soiled equipment. Clean and reset tray.
15. Wash hands.

5–23. Urinal and Bedpan Assistance

Most bed patients find using the urinal or bedpan a necessary but sometimes embarrassing experience. It is a nursing responsibility to reduce the unpleasant aspects as much as possible and to assist the patient to maintain proper elimination with the least exertion. The urinal or bedpan is provided promptly whenever requested. In addition, all bed patients are usually offered one before meal hours and visiting hours. Both patients and personnel must wash their hands after use.

PROCEDURE

Use of the Urinal (Male Patient)

1. Bring urinal, inserted in paper cover, to the patient. Screen the patient and give the urinal directly to him, placing the cover on the seat of the chair.
2. Assist the patient as needed; *for example*, adjustment of pajama trousers or placement of urinal. Be sure to place the urinal in level position after lowering the knee gatch p.r.n. Instruct the patient to signal when finished. Be sure he understands that he must never place the urinal on his bedside stand.
3. On signal, return promptly, bringing a basin of warm water. Remove the urinal from the bed. Assist the patient to wash his hands.
4. Note the color and amount of urine before discarding it. If output record is kept, measure and record the amount and time voided on DD Form 792, Intake and Output Worksheet (I & O). If the appearance of the urine seems abnormal, save a specimen for the doctor to observe.
5. Follow routine procedure for cleansing and storing the urinal.

Use of the Bedpan (Male or Female Patient)

1. Bring warmed bedpan, inserted in paper cover, to the patient. (To warm the bedpan, rinse with hot water, then dry.)
2. Screen the patient.

3. Place the covered pan on the chair seat and prepare to assist the patient p.r.n. Lift bed covers, remove any supporting pillows, and lower the knee gatch. Pull pajama jacket above waist and pants to below knees. Tell the patient to bend his knees, press heels against the bed, and raise his hips. Slip one hand under his back, and place the pan under his buttocks. (If the patient is heavy and unable to assist in lifting, ask for assistance. If he cannot raise his buttocks, roll him to the near side of the bed, place the pan against his buttocks, and then roll him back on the pan.) Check his position on the pan.
4. Elevate the head of the bed. Place toilet paper and signal cord within his reach. Leave patient alone unless he requires constant attention.
5. When patient is through, answer signal promptly, bringing a basin of warm water. When removing the pan, support the patient in the same way as in placing it. If the patient is unable to cleanse himself, turn him on his side off the pan and cleanse him with paper. If necessary, wash the anal area with soap and warm water; dry thoroughly.
6. Place covered pan on chair. Readjust pajamas, bedding, and patient's position. Remove the screen. Air the area by opening a window, if possible.
7. Before disposing of contents of the bedpan, look at them, noting amount, consistency, color, and unusual appearance. If in doubt of appearance, save a specimen for the doctor to observe. Record the stool on the I & O Worksheet, if used; otherwise, record it in the defecation or bowel movement (BM) column on the TPR worksheet.
8. Follow routine procedure for cleaning and storing the bedpan.

5–24. A.M. and P.M. Care

A.M. (morning care) and P.M. (evening) care are hygiene and comfort measures provided for all bed patients on a systematic, routine basis. A.M. care prepares the patient for breakfast; P.M. care prepares the patient for the night. This care is usually provided for a group of patients who require varying degrees of assistance, and the specialist must organize all activities; *for example*, he will use a wheeled cart to transport equipment and will distribute equipment first to patients who are able to help themselves and then to patients who require help.

A.M. CARE

This is usually started about 1 hour before breakfast or at the time scheduled for "lights on." The patient is given the opportunity to void, to wash his face and hands, to brush his teeth, and to be generally refreshed and ready for breakfast.

Equipment

For Cart

Large pitcher with hot water
Large pitcher with cold water
Stock bottle of mouthwash
Bucket
Large paper bag for trash
Paper towels

For Each Patient

Face basin
Paper cup
Emesis basin

Procedure

1. Offer urinal or bedpan as needed.
2. Collect urinal or bedpan.
3. Wash hands.
4. Load cart with equipment listed above.
5. Distribute to each patient a wash basin half full of warm water, a paper cup half full of mouthwash, and an emesis basin. Place the patient's personal articles within his reach—toothbrush, dentifrice, towel, washcloth, soap, glass of water, and comb.
6. Assist each patient as needed in washing face and hands and brushing teeth.
7. Change wet or soiled linen; straighten top bedding.
8. Leave each patient in correct position for receiving breakfast tray—head of bed elevated, or patient on his side. Clear table top and place it in position for the tray.
9. Remove used and any unnecessary equipment from the unit. Pour waste water in bucket and discard used paper cups in trash bag. Wipe up any spills on the patient's table or on the floor, using a clean paper towel each time.
10. Take cart to utility room. Clean all equipment according to routine procedure. Discard trash. Clean cart and return it to designated storage area.

P.M. CARE

This care is usually started after evening visiting hours or about 1 hour before the scheduled "lights out."

Equipment

Same as for A.M. care, plus rubbing alcohol or lotion compound.

Procedure

1. Follow A.M. care procedure.
2. Add back rub for all bed patients and for newly ambulatory patients who may have completed their evening toilet in the bathroom.
3. Tighten and straighten foundation and top bedding. Turn and freshen pillows.
4. Place bedside table and signal cord within patient's reach. Give fresh drinking water if it is permitted. Provide extra blanket if needed.

P.R.N. CARE

P.r.n. care refers to the hygiene and comfort measures provided whenever needed, day or night, for an individual patient. Such care may include any or all of the following: special mouth care; a complete or partial bath; back rub; changing positions; changing or straightening bed linen; and providing additional pillow supports or other comfort devices.

5-25. The Cleansing Bath

a. General. The bath stimulates circulation in the skin and underlying tissues and promotes health and comfort. Bath procedures also provide excellent opportunities for observation of a patient's physical and emotional condition, for patient-centered conversation to promote good interpersonal relationships, and for patient teaching.

b. Instructions. The cleansing bath may be a complete bed bath, a partial bed bath, a tub bath, or a shower. The choice is determined by the patient's condition, the approval of the doctor or nurse, and the facilities available. All four types represent different stages of progress in the activities of daily living. In all cases, the specialist is responsible for the preparation, assistance to the patient as necessary, and clean-up of the bath area.

(1) The convalescing ambulatory patient may still require active assistance in the tub or shower. If so, the specialist stays with the patient and assists as necessary. He should personally observe and note which body area, if any, the patient is unable to bathe properly and must then complete the bath for the patient. If it is not necessary that he remain with the patient, he must still check on the patient at intervals.

(2) For safety, the door to the bath or shower area must not be locked when occupied by a patient. A tap bell or other nonelectric signal device should be within the patient's reach.

5-26. The Cleansing Bed Bath

A bath in bed cleanses, comforts, and provides circulatory stimulation and controlled exercises for the patient confined to bed. When the patient must conserve energy or is helpless, the specialist gives the entire bath. When some degree of self-care is permitted, the specialist supplies all necessary equipment and bathes the areas the patient cannot reach. He also bathes and rubs the back of all self-care bed patients.

a. Overall body cleanliness is important, but there are occasions when a complete bed bath would be exhausting. Then a partial cleansing bath is given, to include face, hands, axillae, genitalia, back, and buttocks.

b. If limited patient participation is permissible, the specialist assists the patient in brushing his teeth, in washing his face and hands, and in any other way needed. While assisting, he observes the patient closely and takes over before fatigue sets in.

c. The patient's position during the bath is determined by his physical condition and the movement permissible. Unless contraindicated, the bed is flat, and movement and position change is encouraged. The specialist is expected to use good body mechanics and to request assistance when necessary in moving and positioning the patient.

d. When supporting binders and leg bandages are used, the specialist finds out in advance if they can be removed for skin cleansing and if they are to be reapplied. The patient receiving a bed bath will often have tubing attachments that must be handled so that they continue to function as he is moved and turned. All tubing must be carefully checked before and immediately after position changes.

EQUIPMENT

Wash basin
Warm water (110-115 degrees F)
Skin lotion
Pajamas

Sheets, 2
Pillowcase, 1
Portable screen p.r.n.
Laundry hamper

NOTE

Patient should have the following articles in his bedside table:

Soap
Soap dish
Deodorant
Nail file
Comb
Bath towel
Hand towel
Washcloth

PROCEDURE

1. Visit patient and inform him of procedure. Offer bedpan or urinal.
2. Check for required personal toilet articles and clean linen available in unit. Clear top of bedside cabinet and place cabinet and chair for optimum workspace. Check for drafts. Position screen as required for privacy.
3. Take bath equipment to unit and place on cabinet. Place clean linen, in order of use, on chair.
4. Loosen top covers at foot of bed. Fold and remove spread and blanket. Leave top sheet for cover.
5. Lower gatch to level position, if permissible.
6. Remove pillow. Place at back of chair. (Hang pillowcase to receive soiled linen, if laundry hamper is not readily available.)
7. Move patient to near side of bed.
8. Remove pajamas. If the patient has an injured arm or shoulder, start removal from the uninjured side. (When movement must be minimal, the coat is worn back to front and left unfastened.)
   a. *To remove the coat.* Unbutton and tuck excess material under the back toward the far shoulder. Raise far shoulder, remove sleeve, and tuck coat under to near shoulder. Raise near shoulder and pull coat through, removing it from near arm.
   b. *To remove the pants.* Loosen waist tie, unbutton, and pull below the hips while keeping the patient covered with the sheet. Grasping the waist portion, ease pants off over the feet.
9. Place bath towel under the patient's head and hand towel over the chest.

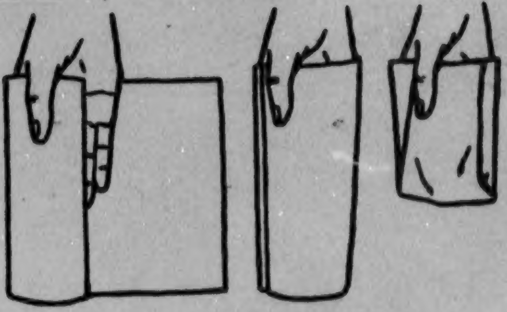

Figure 5-20. Mitten washcloth.

10. Secure ends of washcloth in the hand to avoid dangling corners. It may be used mitten fashion (fig. 5-20). It should be wet but not dripping.
11. Bathe the eyelids, using a different portion of the cloth for each eye.
12. Apply soap to cloth, unless no soap is used on face. (Do not leave soap in wash water.) Using firm, gentle strokes, wash face to hairline, then wash ears and neck. Rinse and dry with hand towel.
13. Remove bath towel from under patient's head. Expose far arm. Place bath towel lengthwise under shoulder and arm.
14. Wash arm, using long firm strokes from wrist to shoulder. Wash armpit thoroughly. Rinse and dry. Apply deodorant, if used by patient.
15. Fold towel in half. Place basin on folded towel on bed; immerse patient's hand in water. Wash hands and nails, encouraging finger movement. Trim and clean fingernails if needed.
16. Remove basin and dry the hand.
17. Repeat procedure on near arm and hand.
18. Wash chest and abdomen.
   a. *Male Patient.* Turn sheet back to waist. Place bath towel at edge of sheet. Wash, rinse, and dry chest.
   b. *Female Patient.* Place hand towel over chest to avoid undue exposure of the breast and turn sheet back to waist. Lift corner of the towel while bathing patient to observe skin. Support pendulous breast and observe and wash skin fold areas. Dry gently but thoroughly.
19. Cover chest with hand towel. Turn sheet back to pubic hair line. Wash, rinse, and dry the

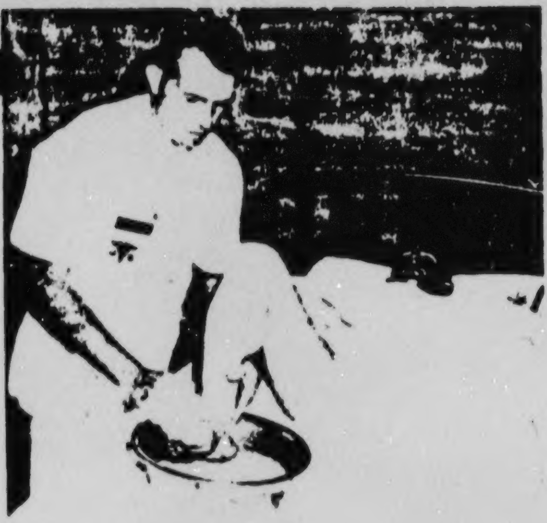

Figure 5-21. Method of draping sheet for bathing lower extremity.

abdomen, umbilicus, and hips. Cover chest and abdomen with sheet. Change bath water p.r.n.

20. Expose the far leg, draping sheet securely into the groin and under the thigh. Check to see that genitalia are not exposed when the leg is flexed (fig. 5-21).
21. Wash, rinse, and dry the thigh and leg.
22. Place basin on a towel on the bed so that the patient's foot can be immersed in the basin, with no pressure on calf of leg. Wash foot, paying particular attention to the skin between the toes, at the heels, and at the ankles. Encourage toe and ankle movement. Clean and trim toenails if necessary.
23. Support leg at knee and heel when removing foot from basin. Place basin on table. Dry the foot thoroughly, rubbing any calloused area with towel to remove dead skin. Apply lotion to foot and ankle, massaging heel in circular motion with palm of hand.
24. Repeat procedure on near thigh, leg, and foot.
25. Change the bath water. Rinse washcloth thoroughly.
26. Turn patient to wash back and buttocks. His position may be prone (on the abdomen) or lateral recumbent (on the side) but the entire back and buttocks should be exposed.

Place towel close to the back and lengthwise on the bed.

28. Bathe, rinse, and dry the back from neck to sacrum. Pay particular attention to folds of buttocks and anal area.
29. Rub back with lotion. Use firm, gentle, circular movements, starting at base of the spine and rubbing with heel of both hands, up and out, over the shoulders. Finish with circular movements at cervical spine and nape of the neck.
30. Turn patient on his back, to near side of the bed, and place towel under hips.
31. Hand patient the prepared washcloth and assist in washing the pubic area and genitalia as necessary. There should be minimal exposure but thorough washing, rinsing, and drying.

NOTE

If the patient has an indwelling catheter, the entire procedure is done by the specialist.

32. Put pajamas on the patient.
    a. *To replace the coat.* If the patient has an injured arm or shoulder, start replacement from the injured side. Slip hand through sleeve cuff to shoulder, and grasp patient's far hand. Draw hand and arm through sleeve. Raise far shoulder and tuck material under to near shoulder. Guide near arm through sleeve.
    b. *To replace the pants.* Slip hand through pants leg from the cuff to waist, and grasp patient's feet to guide each leg through its pant leg. Raise patient's buttocks and pull over hips to the waist. Fasten buttons and waist tie.
33. Comb patient's hair.
34. Remove bath equipment to utility room. Clean and store it as prescribed.
35. Remake the bed. If permissible, assist the patient from the bed to chair or stretcher and make bed as in paragraph 5-13. If patient must remain in bed, remake the occupied bed as in paragraph 5-14.

5-27. Care of the Patient's Hair

Daily care of a patient's hair is needed for morale; to stimulate circulation of the scalp; and to prevent tangled, matted hair.

a. Daily Care. Encourage the patient to rub his scalp with fingertips to stimulate circulation. Comb in becoming style. To assist a woman patient to comb matted and tangled hair, first comb the ends and progress toward the scalp. Hold the lock of hair being combed between the scalp and the comb to avoid pulling.

b. Hair Cutting. Barber service is provided in most service hospitals. The barber makes regular rounds on the ward or comes by appointment. The patient receiving the service pays the fee directly to the barber. Occasionally hairdresser service can be arranged for women patients on the ward. Ambulatory patients go to the barber shop or beauty parlor, if the ward officer approves.

SHAMPOO

The patient confined to bed will require a cleansing shampoo at least every 2 weeks. With the approval of the ward officer, plan the shampoo for a time when the patient feels rested and has no conflicting treatments or appointments. If the patient can be moved to a stretcher, do so and take him to a convenient sink. If this is not possible, do the shampoo in bed.

Equipment

Large pitcher of warm water
Bucket
Newspaper
Large rubber sheet
3 bath towels
Washcloth
Shampoo solution
Clean comb and brush

Procedure

1. Place newspaper on chair and bucket on the newspaper. Place pitcher of water, shampoo, comb, brush, and two of the bath towels on table.
2. Move patient to near side of bed. Lower bed to level position.
3. Pull pillow down under the patient's shoulders to hyperextend the neck. Fold one bath towel around neck.
4. Place narrow side of rubber sheet under head and over edge of pillow. Roll sides of sheet to improvise a trough, and place free end in bucket.
5. Give the patient a washcloth for eyes and face.
6. Check provisions for water drainage before pouring any water.
7. Wet hair and apply shampoo. Lather. Rinse.
8. Reapply shampoo, rinse again repeatedly until hair is "squeaky clean." (A woman will require more rinse water than a man, but otherwise the procedure is unchanged.)
9. Slip a dry towel under patient's head while rolling and removing rubber sheet. Pull pillow up into place.
10. Dry the hair by gently rubbing with a clean towel.
11. Remove equipment. Wipe up any water spilled on floor.
12. Assist the patient to comb and brush clean hair with clean comb and brush.

5-28. Position Support Devices

a. Position Support Devices. These devices are aids used for maintaining good body alinement and comfort for patients confined to bed. Support devices in common use on a hospital ward include the bed gatch; footboards; pillows; sandbags; and rolled and folded towels, sheets, and blankets (fig. 5-7). Any device used should meet the following requirements:

(1) Promote correct posture.

(2) Conform to the part of the body being supported.

(3) Be firm enough to support, yet not cause pressure.

(4) Be large enough to support a part along its entire length.

(5) Be clean and protected when necessary from moisture and body secretions.

b. Use of Support Devices. Explain to the patient the reason for using a device and encourage his participation in maintaining good body alinement. Any device used should serve a purpose. When a variety is needed for an individual patient, all of them may not be required at any one time, so an extra chair or table at the bedside may be needed for storage, particularly of pillows. Superfluous equipment should be removed.

(1) *The bed gatch.* Raising and lowering the back and knee rests on an adjustable bed provides support and allows for position changes, but there are disadvantages that must be considered. When the back rest is elevated, the patient tends to slide down in bed, with his body weight concentrated on the base of his spine, which is undesirable. Elevation of the knee rest counteracts this to some extent, but continued use of the knee rest causes undesirable pressure in the popliteal space, and can lead to flexion contracture of the knee and hip. The bed gatch should therefore be used for variations in position and not as a substitute for active movement of the patient.

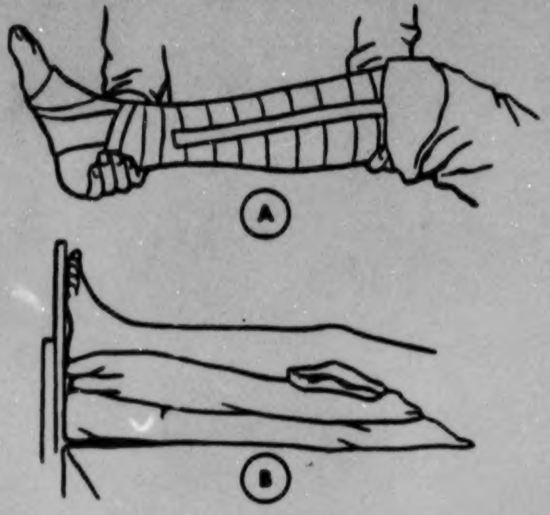

Figure 5-22. Positioning an injured arm or leg.

(2) *The footboard.* When properly placed in relation to the patient's feet, the footboard helps prevent foot drop (plantar flexion). The patient's feet should be supported at right angles to the legs when he lies on his back. A padded board, a firm pillow, or a blanket roll is braced between the end of the bed and the patient's feet. Such a device also helps prevent sliding down in the bed, relieves the pressure of bedding on the toes, and provides a resistant surface against which the patient can push for exercise to maintain circulation and muscle tone. The board or pillow roll should extend higher than the toes.

(3) *Pillows.* These have multiple uses, but placement in relation to body curves is essential. The standard-size pillow is often too large, but folded bath towels placed in a pillowcase can be substituted when small, firm pillow support is recommended. When the patient is supine or has the back rest elevated, the pillow supporting the head should start well under the shoulders. (A common mistake is to tuck the pillow behind the neck, forcing the head forward.) When pillows are used to elevate an extremity, they should be placed so that the entire limb is supported. Two or more pillows may be required. It is important to remember that, unless otherwise ordered, the foot or hand should be slightly higher than the rest of the extremity. Arrange the pillows in order to provide an inclined plane. In moving an injured arm or leg, place both hands beneath the injured limb, at the joints above and below injury (fig. 5-22 Ⓐ). Raise the limb slowly and gently and place it on the supporting pillow or pillows (fig. 5-22 Ⓑ).

(4) *Sandbags and bolsters.* Sandbags, firmly rolled bath towels, or folder sheets are used to support joints in anatomical position. *For example,* when the foot is supported against the footboard, the ankle joint may need support on either side to prevent inversion (sole of foot turned inward) or eversion (sole of foot turned outward). A trochanter roll helps to prevent external rotation of the thigh and hip joint when the patient lies on his back. To make a trochanter roll, fold a sheet so that it is just wide enough to extend from the iliac crest to the midthigh. Then anchor and roll the sheet as follows: Place one end smoothly under the buttocks; then roll the free end in "underneath" fashion until the roll is well under the patient's buttock.

5-29. Bed Cradle

A bed cradle (fig. 5-23) is used to relieve a part of the body from the weight of bed covering. Extremities may be elevated on pillows, and the cradle dimensions are designed to accommodate this. Bed making is modified for protection, comfort, and neat appearance.

EQUIPMENT

Bed cradle, standard model or field (collapsible)
Roller bandage
Unit bed linen, plus 1 additional sheet and blanket

PROCEDURE

1. Complete bed foundation as for the occupied bed.
2. Place cradle in position over the patient, with no part in contact with a body part. Secure cradle in place with bandage loops tied to the bedframe.
3. Place top covers to provide adequate covering for the shoulders, draping these ends over the head-end of cradle.
4. Place additional blanket and covering sheet crosswise over cradle, overlapping the top covers, with surplus toward the foot of the bed.
5. Tuck the surplus edges of cradle covering under the foot of the mattress. Miter corners, arranging top folds to hang free. Fold back the overlapped covers as required for access to the body part protected by the cradle.

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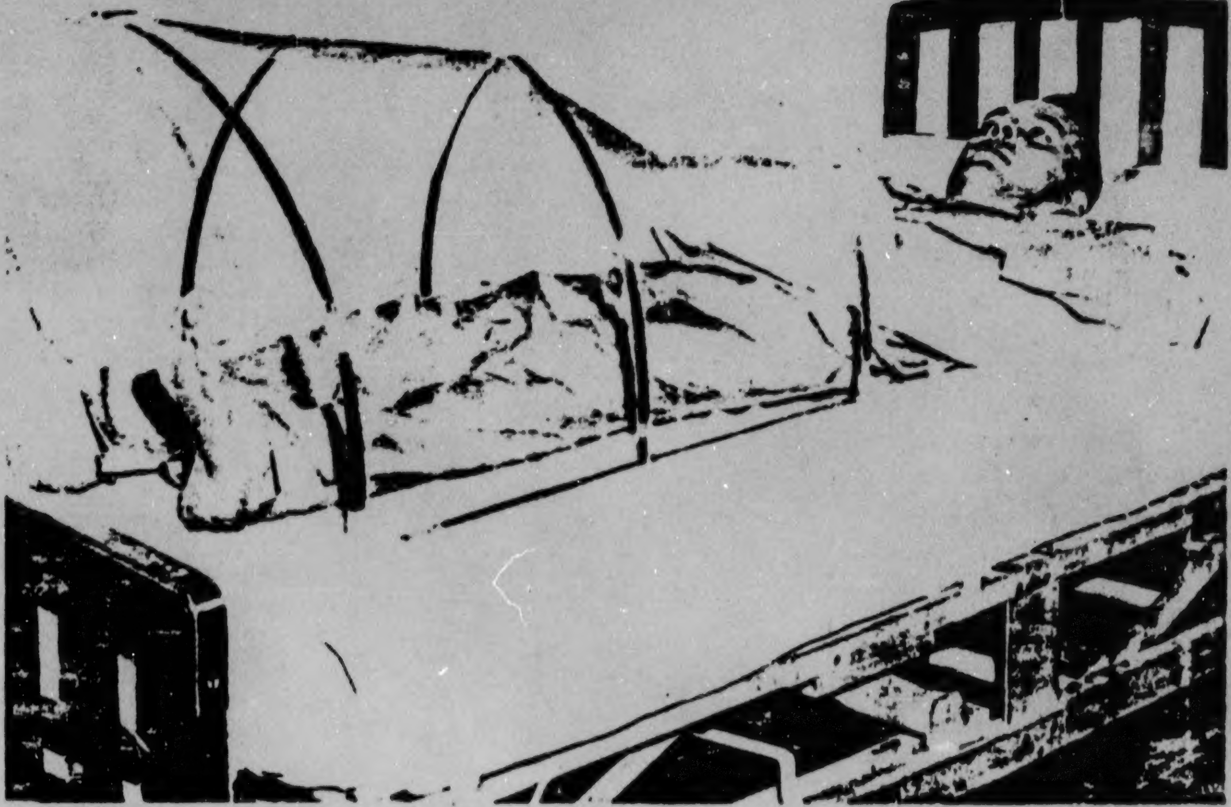

Figure 5-23. Bed cradle.

5-30. Prevention of Pressure Sores

a. General. A pressure or bed sore is a break in the skin caused by unrelieved pressure on the skin surface. The body areas on which pressure sores are most likely to develop are over bony prominences (fig. 5-24). (Although not illustrated in figure 5-24, bedsores can also develop on such areas as toes, knees, shoulders, chin, and forehead.) In these areas, circulation to the skin is easily restricted by the pressure of body weight, and any patient unable to move and change position is susceptible. Pressure sores develop in recognized stages. In the first stage, there is redness of the skin area; in the second, a bluish or mottled discoloration of the skin; in the third, a break in the skin which can rapidly develop into a decubitus ulceration (a destruction of underlying tissue). Pressure sores can develop within a few hours of neglect and complicate recovery for weeks and months. They can, however, be prevented by good nursing care.

b. Preventive Nursing Measures.

(1) Change the patient's position at least every two hours, or more frequently if necessary. Remember that there are four body surfaces on which to turn the patient to relieve pressure on any one area.

(2) Inspect all skin areas of all bed patients daily during the bath procedure and at evening care. Massage skin areas over bony prominences to stimulate circulation. Report any suspicious (reddened) area immediately to the nurse in charge, and relieve pressure by changing position. Report any complaint of numbness or tingling under a cast or splint.

(3) Keep the patient's skin clean and dry. Wash areas soiled by body excretions immediately with soap and water, rinse well, and dry thoroughly.

(4) Keep bed linen clean, dry, free of wrinkles, and free of crumbs and any other foreign matter.

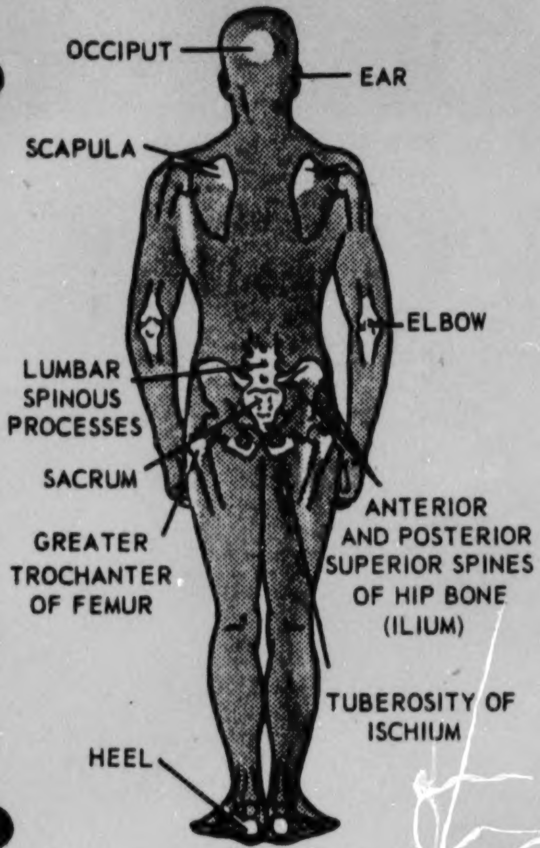
OCCIPUT
EAR
SCAPULA
ELBOW
LUMBAR SPINOUS PROCESSES
SACRUM
ANTERIOR AND POSTERIOR SUPERIOR SPINES OF HIP BONE (ILIUM)
GREATER TROCHANTER OF FEMUR
TUBEROSITY OF ISCHIUM
HEEL

Figure 5-24. Areas susceptible to bedsores.

(5) Use pillows and all positioning and comfort devices properly. Rubber rings, cotton doughnuts, and similar articles often cause new circumscribed pressure areas and are thus not considered advisable.

c. Treatment of Pressure Sores. The best treatment is prevention by proper nursing care. Medical officer's orders must be followed for application of any medication. Aseptic technique must be used on any broken skin areas.

d. Use of Alternating-Pressure Mattress. This mattress is a device to provide continuous redistribution of pressure points for a patient confined to bed. It is a vinyl plastic pad with air cells running the length of the pad. The air cells are alternately inflated and deflated by an air pump motor unit which provides automatic control. It is not a substitute for preventive nursing care, but it is a supplement to this care. The mattress, a nonstandard item obtained through a special pur[illegible]e order, is used in many Army Medical Department hospitals. It is usually stored in the ward unit for which it has been ordered.

Procedure

1. Set up and check out the mattress on a bed to which the patient will be transferred.
2. Place the alternating pressure pad on top of the regular mattress with the inlet air tubes at the foot of the bed. Tuck the apron ends under the bed mattress. Attach tubing to the pump unit and connect pump to electrical outlet.
3. Locate and turn on the air pump switch. The change of air in the cells will be barely perceptible to the hand; it is a continuous, slow, rippling motion. Check for leaks by running fingertips slowly over the surface. Make sure tubing is not kinked or pinched.
4. Make the bed in the usual fashion, omitting a rubber or plastic drawsheet.
5. Avoid puncturing an air cell with the pins used to secure drainage tubing or signal cord to the foundation bed sheet.
6. Following use, or when soiled during use, wash with soap and water or detergent-germicide solution. Dry thoroughly.

NOTE

The vinyl will not be damaged by alcohol or other germicides, but it cannot be autoclaved.

5-31. Protective (Restraining) Devices

a. Purpose. Protective devices are mechanical restraints used to protect a patient from self-injury. Devices commonly used include side rails, folded sheets, hand mitts, and wrist or ankle ties.

b. General Instructions.

(1) Use protective devices for patient safety but never as a substitute for nursing vigilance. A patient needing a protective mechanical restraint must have extra-vigilant nursing care.

(2) Obtain a medical order for the use of a protective restraint. It is a nursing responsibility to protect a confused, irrational, unconscious, or drug-sedated patient. The medical order is often a p.r.n. order, and the physician thus relies on nursing judgment for its use.

(3) Tell the patient gently and repeatedly, why the device is being used, whether the patient seems able to respond or not. Assure him that someone will always be near to help and care for him. Remember that the normal reaction of a confused patient is to resist restriction of movement.

(4) Release any restraint and change the patient's position at definite time intervals, at least every 2 hours, day and night.

(5) Apply and use any such device so as to prevent injury. *For example*, side rails must be mechanically in good operational condition and devices applied to any part of the body must not impair or restrict circulation, cause pressure on skin surfaces, or contribute to faulty body alinement.

c. Use of Side Rails. Side rails are metal bar rails which help keep a patient from falling out of bed. They are the most commonly used protective device on a ward or in an emergency clinic area. Standard rails used in Army Medical Department facilities may be permanently attached to special beds used in some clinical areas (*for example*, in the recovery ward) or may be detachable and obtained from a central storage area p.r.n. Precautions for the use of side rails are:

(1) Be sure the rails are in good working order. They should be securely attached, should slide readily up or down, and should be properly latched when in the up position. Know how to secure and release the latches. Avoid pinching fingers in spring attachments.

(2) Use the rails as a pair. A common, but unsafe, practice is to push the bed against a wall and raise a side rail only on the open side of the bed. Patients can and do roll off the wall side.

(3) Be aware of the possibility that a confused patient may crawl over the side rail or over the head or foot of a bed. This possibility is not a justification for omitting the use of side rails, but it does show the need for extra vigilance.

(4) Pad rails with pillows or folded blankets when used to protect restless, hyperactive patients.

(5) Check to make sure the patient's hands, feet, and drainage or IV tubing are not caught before raising or lowering a bed rail.

d. Use of Sheet Protectors. Adequate protection may sometimes be provided by tucking top bedding well under at the sides of the bed. This serves more as a protective reminder to restrict body movement than as a restraint. When more restriction of body movement is needed, sheets may be folded lengthwise in quarters; placed crosswise over the patient's knees, abdomen, and chest; and the free ends of the sheet restraint secured by rolling over the side rail of the bed frame—not by tucking under the mattress. When sheets are used in this manner, care must be used not to interfere with respiration.

e. Use of Hand Mitts. Hand mitts (fig. 5-25) are padded hand protectors applied in boxing-glove fashion to prevent an irrational patient from pulling out drainage tubes, IV needles, urinary catheters, and other therapeutic attachments. The restless, confused patient tolerates mitts better than wrist restraints because arm movements are not restricted.

(1) Padding is applied to clean, dry skin surfaces only. All skin surfaces are separated, and the hand is placed in a position of function before final padding and wrapping. Figure 5-25 (Ⓐ through Ⓒ) shows how to position the thumb over a resilient bandage roll and how to position the fingers. Figure 5-25 (Ⓓ through Ⓕ) shows how to complete the mitt.

(2) At least every 24 hours, each mitt is removed and each hand is washed, dried, and closely inspected for any skin abrasion. The usual time for this is during the cleansing bath procedure, caring for one hand at a time.

f. Use of Wrist or Ankle Ties. The clove hitch tie (fig. 5-26) is used where a wrist or ankle restraint must be applied to restrict random movements. The advantage of the clove hitch is that the loops can be readjusted snuggly over protective padding, but they do not tighten further when the free ends are attached to the bed frame. The following precautions should be observed:

(1) When the clove hitch is used, allow enough slack in the tie ends to permit some movement. Apply the tie over well-padded areas.

(2) Remove the padding and tie, examine skin surfaces, massage area, and reapply p.r.n. at least every 2 hours.

(3) Fasten the ends of the clove hitch tie in a loop to permit immediate release when necessary.

(4) Fasten tie ends to permit alinement of the restricted extremity.

5-32. Nutrition and Patient Food Service

Proper nutrition is an essential part of the treatment and care of the patient. Diets are ordered for the patient by the doctor. They vary according to the patient's needs. In an Army hospital, all diets are planned and prepared by the Food Service Division. Meals are served in the dining hall for ambulatory patients and in most fixed hospitals, centralized tray service is provided for all patients receiving their meals on a ward. However, nursing service personnel need to be familiar with the types of diets given to patients; know

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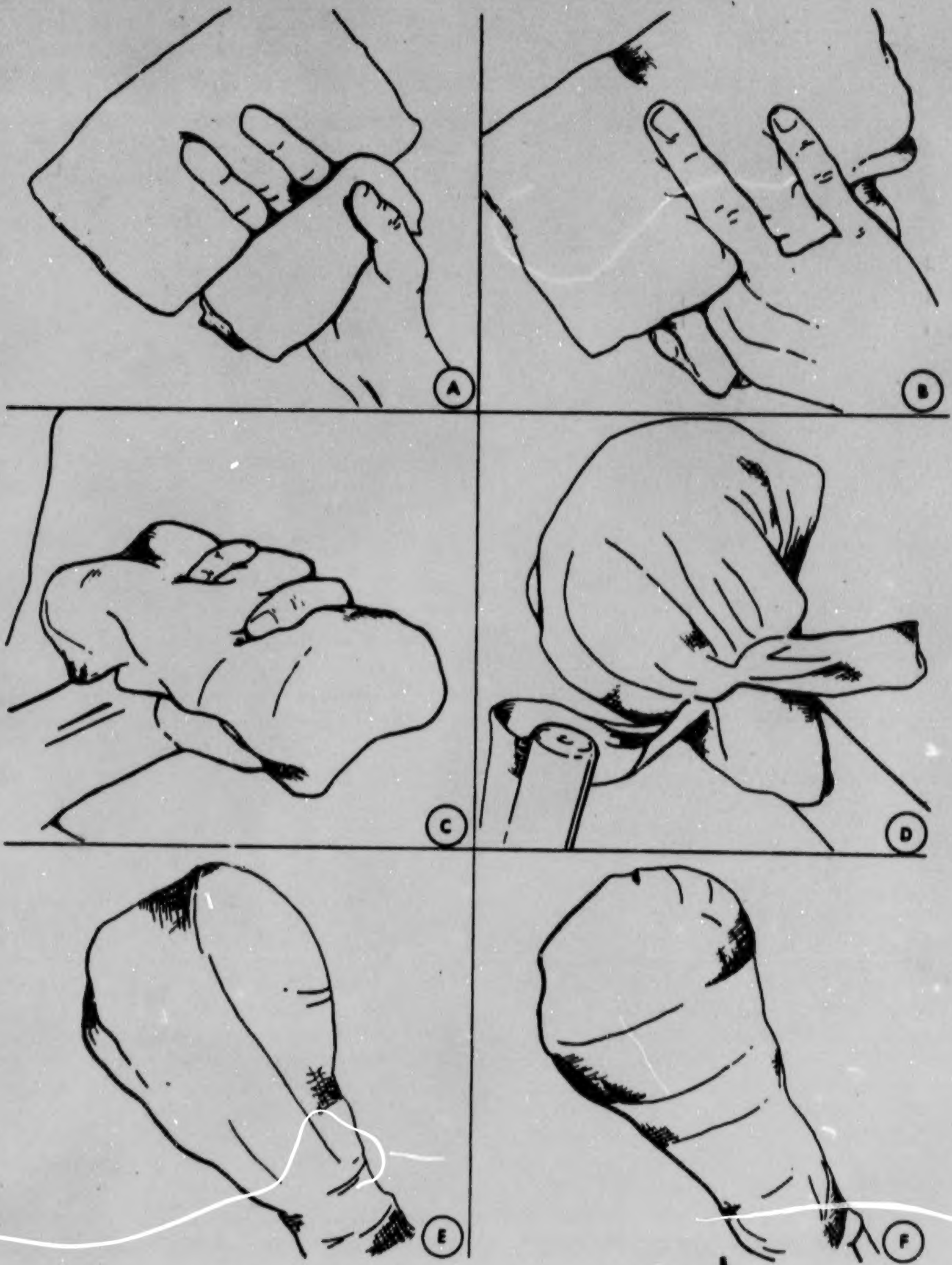


Figure 5-25. Application of mitts.

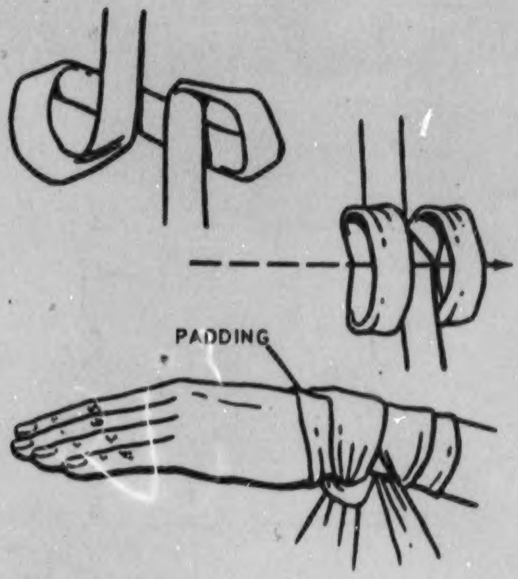


Figure 5-26. Clove hitch restraint.

how to serve the tray prepared by food service personnel; and know how to assist the patient before, during, and after mealtime. Nursing personnel also provide the environment on the ward that will stimulate the patient with a desire to eat the prescribed diet.

a. Types of Diets. The basic hospital diet is developed from four basic food groups: milk, meat, vegetable-fruit, and bread-cereal-potato-legume. Fats and sweets are then added for energy.

(1) *Regular hospital diet.* This is a high-protein, high-calorie diet. It is planned to exceed the recommended allowances for optimum nutrition of the normal individual. This is to meet increased nutrition requirements of sick or injured individuals. A patient eating all portions served would receive approximately 4000 calories daily. No supplementary, between-meal nourishments are necessary. In all fixed Army Medical Department hospitals, a selective menu form is provided by food service for patients on tray service. Nursing personnel should be aware of food choices made by the patient, as well as food consumed from the tray, and arrange immediately for consultation with a dietitian if the patient seems to need special dietary instruction.

(2) *Modified diets.* All diets modified in consistency (chopped, mashed, or strained foods) or in content (*for example*, diabetic or sodium-restricted) are ordered by name by the doctor. Modified diets, by name and content, are described in TM 8-500. Some of these diets will meet all nutrition requirements, and others will not. The one modified diet inadequate in all nutrients is the clear liquid diet. This is limited to broth, bouillon, plain gelatin, coffee, and tea, whether the meal is served as breakfast, dinner, or supper. Diets requiring supplementary between-meal feeding are planned completely by food service. The required between-meal feeding is brought to the ward ready to be served by nursing personnel.

b. Selective Menu Plan. The current trend in dietary management is to allow patients all foods that they can tolerate. A modified diet may be required only during the acute phase of disease or injury, or it may be needed for extended periods. Food service provides selective menus listing all allowable foods for each patient served on the ward. Each patient needs to understand that any item listed on his menu is allowable. Nursing personnel should check to make sure that the menu given to the patient by food service is for the diet ordered and for the right patient. If a mistake has been made, food service should be notified immediately.

c. DA Form 1829 (Ward Diet Roster). Each patient on the ward is listed on this form. An entry is made after each name indicating ward or dining hall food service, including whether the order is for regular or modified diet. The roster is collected by food service three times daily and returned to the Nursing Station three times daily. If a patient is admitted to the ward after the roster is collected, a telephone call to food service will insure that a meal is provided for the patient.

d. Ambulatory Patient Dining Hall Identification. Hours for patient's meal service are posted on the ward bulletin board. Ambulatory patients are admitted to the dining hall at these scheduled meal hours. They are identified according to local regulations. Usually the patient's identity wristband and his hospital clothing (convalescent suit) are all that is necessary.

5-33. Assisting the Patient at Mealtime

a. All Bed Patients.

(1) Offer the bedpan or urinal before tray time.

(2) Provide handwashing facilities or wash the patient's hands.

(3) Place the patient in a sitting position, unless the doctor has ordered otherwise. Clear his

table and place it in the most convenient position for eating.

(4) Avoid spilling the food while carrying the tray.

(5) Check the name on the tray card to assure that the right diet is given to the right patient. Serve the tray promptly.

(6) Remove the tray as soon as the patient has finished eating and place it on the tray cart for return to Food Service Division.

(7) Leave the patient in a comfortable position with the call bell within reach on the bedside table.

b. Semihelpless Patients. In addition to the duties in *a* above, when serving a semihelpless patient, include the following:

(1) Arrange the food and utensils within reach of the patient and place a towel and napkin to protect the bed and clothing.

(2) Prepare the food, as necessary; *for example,* cut the meat and butter the bread.

c. Helpless Patients. In addition to duties in *a* above, add the following additional assistance:

(1) Place the tray on the table in such a way that the patient can see what is on it.

(2) Provide him with a napkin and a towel bib.

(3) Stand or sit in a comfortable position for feeding the patient.

(4) Ask him to suggest the foods he desires.

(5) In giving him fluid, use a plastic drinking tube.

(6) In feeding him with a spoon, fill the spoon two-thirds full and remove the drip from the bottom by passing the spoon over the edge of the cup. Touch the lower lip with the side of the spoon, exerting slight pressure, and raise the spoon slightly to allow the liquid to flow gently into his mouth.

(7) In feeding him through a tube, keep the end below the level of the liquid to prevent his swallowing air.

(8) Allow time for chewing and swallowing.

(9) Encourage him to take all the foods and liquids on the tray.

(10) Talk with him while he eats—mealtime should be a pleasant social occasion.

Observing and Reporting Food and Fluid Intake. Always report to the nurse all bed patients who are not eating well or who refuse their diet. Report also all ambulatory patients who do not go to meals. If a fluid intake and output record has been ordered, keep an accurate record at the bedside.

d. Giving Water and Extra Feeding as Ordered. Drinking water is usually at the bedside of each patient so that he can drink when thirsty. Sometimes, however, the doctor will restrict the amount or will order extra fluids or food between meals or at bedtime. Check the orders carefully and help the patient to observe them. Serve all supplementary feedings provided by food service promptly, and collect food utensils for return to food service. Paper disposable dishes are often furnished for between-meal feedings.

5-34. Patient Food Service in Field Hospital Operations

In field hospital operations, the standard procedure for serving patients who receive their meals on the ward is through decentralized tray service. Food prepared by food service personnel is delivered to the ward unit in bulk containers. The food is then served by nursing personnel, using the food service set, field, a component part of the basic ward equipment. Through the mutually supportive efforts of both groups of personnel, the dietary requirement of every patient is met, even under the most arduous conditions. The specific areas of responsibility in field food service for ward patients include the following:

a. Food service personnel prepare all food according to diet orders transmitted by nursing personnel. Food in the required quantity, suitably labeled according to diet requirement, is placed in bulk serving receptacles. Under some conditions, an electrically heated food cart may be used; when this is not feasible, the food receptacles are placed in insulated containers which can be carried manually to the ward units. Local policy will determine which service division transports the food and equipment to and from the kitchen facility and the ward unit. The arrangement made for sanitizing of all food utensils, including the ward service set (compartmented plastic trays, cups, bowls, and eating and serving utensils), is the responsibility of food service under all operational conditions. The soiled utensils are sent to food service, and clean utensils are returned to the ward.

b. Nursing personnel serve the food, according to individual diet order, to patients on the ward unit. In this situation, nursing personnel have a special responsibility to be aware of diet requirements and allowable portions.

(1) Whether or not a professional dietitian officer is assigned to a unit, the daily menus for both regular and modified diets are prepared in accordance with TM 8-500 and a hospital master menu.

(2) The food serving utensils in the ward service set are guides for portion allowances. For example, a 6-ounce ladle is used for a portion of soup, hot cereal, casserole dishes, or stews. The large serving spoon or the ice cream scoop is used for a portion of cooked vegetable, fruit, or mashed potato. However, an 8-ounce serving of a beverage such as coffee, cocoa, milk, or fruit juice is an average portion, although the plastic cup and tumbler in the food service set have a 10-ounce capacity.

(3) Dietary problems are discussed with the medical officer and food service officer or NCO. Consultation with a professional dietitian officer may be requested through military channels when none is assigned to a unit. Nursing personnel should be aware of the detailed programs in effect for meeting dietary requirements of patients in military hospitals. For example, under field conditions, special dietary foods are available under Standard "B" Ration subsistence operations even when only canned and dehydrated foods are issued. Food service personnel have professional guides for preparing several types of therapeutic diets. Commercially packaged baby foods are available, as part of the Standard "B" hospital ration, for modified diets that must be of a semisolid or fluid consistency and still meet all nutritional requirements of an adult patient.

(4) DA Form 1828 (Ward Diet Summary) is used by nursing personnel when decentralized tray service in field operations is in effect. The several modified diets most frequently required are listed. The entry column "Forced Fluids" is used to indicate the number of patients requiring oral fluids other than water for between-meal intake; beverages such as lemonade, juices, or milk drinks are provided. When the doctor orders forced fluids, the patient receives 4000 to 5000 ml. daily, and food service, if notified, will provide palatable between-meal beverages to supplement the water intake and the fluids provided at meal hours.

Section V. OBSERVATION, MEASUREMENT, AND REPORTING

5-35. Ward Nursing Procedures in Admitting, Transferring, and Discharging Patients

a. Reception of a Patient on the Ward. The manner in which a patient is received in the hospital and on his own ward is an important contributing factor to his attitude and, therefore, toward his recovery. A feeling of confidence must first of all be established. Entering a hospital sometimes stimulates a considerable amount of dread and apprehension in the patient. Admission procedure should be as brief and as reassuring as possible. Personnel should show interest in the patient as an individual and make it apparent to him that his care is planned on an individual basis.

b. Routine Admission (Ambulatory Patient). The ambulatory patient may or may not be escorted to his ward. When he reports to his assigned ward, he will usually bring with him several forms which have been initiated in the Admission and Disposition (A & D) Branch of the Registrar Division. These forms are his admission authorization. They usually include: locator cards (one of which will be placed in the card holder on the patient's bed); an identification plate for use in a mechanical imprinter; and a Clinical Record Cover Sheet (DA Form 3647). The medical specialist or the person who first greets the patient on the ward, should introduce himself and then—

(1) Check the admission forms immediately to determine the patient's name, to insure that he has arrived on the proper ward, and to determine what information is available regarding diagnosis, condition, and any required temporary treatment.

(2) Notify the nurse in charge—in the absence of a nurse, the senior medical specialist—who will then notify the medical officer of the admission. If the patient requires immediate attention, this is given before any other routine admission procedures are carried out.

(3) Check with the nurse in charge or the senior medical specialist on assignment of the patient to a bed. It is customary for one member of the nursing team to carry out certain administrative procedures such as assembling the clinical record and other paper work, while another mem-

ber carries out direct patient care procedures as outlined below.

Admission Procedures.

(1) Escort the patient to his assigned bed, taking along the bed locator card and placing it in the card holder on the bed.

(2) Open the bed for occupancy.

(3) If the patient has not arrived on the ward in hospital clothing issued from A&D clothing facility, issue hospital clothing (bathrobe, slippers, pajamas, and convalescent suit if needed).

(4) Follow local policy concerning admission bath or shower.

(5) Screen the unit for privacy and assist him, if necessary, to undress and to dress in hospital clothing.

(6) Follow local policy for instructing the patient to remain ambulatory or to get into bed immediately.

(7) Obtain the admission information required by the ward. A locally produced form is usually used for recording this information. It is then transcribed to the Nursing Notes (DD Form 640). Admission information includes arrival time, manner (ambulatory, wheel chair, st[illegible]her), apparent condition, observations made on signs and symptoms, allergies, prostheses used, height, weight, TPR, blood pressure, time, name of physician notified regarding the patient's admission, and name of individual admitting patient.

(*a*) While assisting the patient to his bed, make general observations such as the patient's general appearance, condition of his skin, gait (manner of walking), any complaints of pain or discomfort, any prostheses (artificial eye, dentures, artificial limb, etc.), and any limitations in movement.

(*b*) Take TPR and BP when the patient is seated comfortably at his bedside.

(*c*) Take height and weight measurement when he is dressed in hospital clothing.

(8) Ask the patient if he has deposited in the Patient's Trust Fund any money or valuables he will not need while he is hospitalized, reminding him that he retains funds and valuables on the ward at his own risk and that he must safeguard the deposit receipt he has received from the Patient's Trust Fund representative.

[illegible] Orient the patient to the bedside call system. If a central speaker system is used, the patient should be shown how to use the bedside signal device.

(10) Orient the patient to the ward: introduce him to neighboring patients and show him the location of the patient's latrine and bath facilities, the patient's bulletin board, and the appointment board, if one is used.

(11) As soon as possible, have him read the ward rules and regulations. Since administrative action can be taken against patients for noncompliance with hospital and ward rules and regulations, it is vital that each patient read and understand the policies determined by the hospital commander. It is the practice in many hospitals to have the patient read and sign a statement: "I have read and understand the ward rules and regulations." This statement is then filed in his clinical record.

(12) Follow the ward policy for sending ambulatory patients to the laboratory and radiology services for routine admission specimens and X-ray. If he is to go unescorted, he must be told how to get to his destination. Whenever possible, a "You are here" diagram is used. The patient is given the appropriate clinical request forms for the examination required.

(13) Show him the ward "sign-out" roster, reminding him to sign in and to report to the nurses' station on his return from laboratory or radiology.

(14) Tell him, as soon as possible after admission, whether he will go to the dining room for meals or whether he will receive tray service. If he is to go to the dining room, he should be introduced to a patient who will accompany him for his initial meal.

d. Emergency (Direct) Ward Admissions. A patient may be admitted directly from the emergency room or outpatient clinic. Ward personnel are notified by telephone that the patient is en route by stretcher or wheel chair. Routine admission procedures are carried out after immediate medical and nursing care has been given. Upon notification of an emergency admission, the admission office sends an admitting clerk to the ward to obtain necessary information. Initial records are prepared using whatever information is available, and these records are completed or corrected later.

c. Interward Transfers.

(1) Interward transfers are initiated by the ward officer of the transferring ward after ob-

taining the consent of the ward officer of the receiving ward. When all consents have been obtained, DA Form 8-169 (Patient's Interward Transfer) is completed in duplicate. The original copy is sent to the disposition clerk in the Admission and Disposition office, and the duplicate copy is filed with the clinical record.

(2) The ward officer informs the patient, informs the head nurse, and writes an order for transfer on the Doctor's Orders (DD Form 728).

(3) A member of the nursing team not involved in assembling the records must accomplish the following:

(*a*) Assist the patient in assembling his belongings, checking to see that the patient has his property and deposit receipts in his possession. Provide a large paper bag for his belongings.

(*b*) Find out the mode of transportation—stretcher, chair, or ambulation—and assist the patient to dress accordingly.

(*c*) Take the bed card to the nurse and obtain the patient's records.

(*d*) Take the patient and the records to the ward to which transferred.

(*e*) Show interest in the patient. Reassure him as needed concerning questions about the new ward, about redirecting visitors, or delivery of mail.

(*f*) Turn over the patient and the records to the responsible person on the receiving ward.

(*g*) Exchange any property for which the transferring ward is responsible.

(*h*) Return hospital property to the transferring ward.

(*i*) Clean the patient's unit, following prescribed terminal cleaning methods.

f. Discharge of a Patient. The manner in which a patient is discharged is an important factor in the patient's total impression of the hospital. This impression may affect his willingness to continue his treatment or to return to the hospital if necessary.

(1) The ward officer determines the date of discharge and the conditions under which the patient is to be discharged.

(2) Once the order for discharge is written, the nurse or senior medical specialist in charge is responsible for seeing that the patient understands all orders that the medical officer may have given him to follow after discharge such as diet, medications, treatments, and followup appointments.

(3) Administrative procedures are started: completion of all entries on the clinical record; assembling of the clinical record; and forwarding of completed record through the appropriate chief of service to the registrar.

(4) The patient is given instructions concerning clearance. If the patient is physically unable to clear for himself, ward personnel accomplish the clearance for him. Whenever possible, this is done by telephone, using the clearance form provided.

(5) The patient is assisted in assembling his belongings such as bedside articles, clothing from the clothing room, and valuables from the Patient's Trust Fund office.

(6) The patient is escorted or directed to the disposition office. A check is made again to see that he has prescriptions needed and followup appointments.

(7) The patient's name is removed from the ward diet list, treatment list, and any ward worksheets.

(8) The patient's unit is cleaned, following prescribed terminal cleaning methods.

5-36. The Patient's Clinical Record

The patient's clinical record is prepared and maintained in accordance with AR 40-400. A brief introduction is included in this manual to give the medical specialist an overall view of his responsibility in assembling and maintaining the clinical record on the ward.

a. General. A clinical record includes the forms on which are recorded the medical record of a patient during one current, continuous episode of a disease, injury, or other condition. Although the accumulation of forms may be referred to collectively as the patient's chart, it is properly referred to as the clinical record file. It serves as a basis for planning patient care, providing communication between physicians and members of other professional groups, and presenting documentary evidence of the course of illness and treatment. Clinical records remain in the custody of the medical officer while the patient is under his care. They are always handled so that only persons officially concerned will have access to them. With the exception of those forms maintained in the Nursing Book Unit (para 5-37), the assembled record is usually kept in a clinical record rack in the medical officer's office. The record is furnished as required to chiefs of serv[illegible]s, consultants, and other authorized personnel.

b. Assembling the Record. Nursing personnel enter identification and assemble the forms in the prescribed order in the chart holder. They see that diagnostic and test reports are attached or inserted into the record file upon receipt on the ward, after these reports have been seen by the medical officer. Nursing Book Unit completed forms are transferred to the clinical record file. The prescribed order for assembling the various forms in a completed clinical record file is: (1) Clinical Record Cover Sheet; (2) Standard Forms (SF series); (3) Department of Defense Forms (DD series); and (4) Department of Army Forms (DA series). Each group is placed in numerical and chronological sequence.

c. Arrangement of Clinical Record. The actual forms included in a patient's clinical record will vary, and the arrangement while in custody of the medical officer is in accordance with local directions. The usual contents include the following forms:

(1) DA Form 3647 (Clinical Record Cover Sheet).

(2) SF 504 (Clinical Record—History, Part I).

(3) SF 505 (Clinical Record—History, Part II and III).

(4) SF 506 (Physical Examination).

(5) SF 509 (Clinical Record—Doctor's Progress Notes).

(6) SF 511 (Clinical Record—Temperature-Pulse-Respiration (Fahrenheit)).

(7) SF 514 (Clinical Record—Laboratory Reports).

(8) SF 519 (Clinical Record—Radiographic Reports).

(9) DD Form 640 (Nursing Notes).

(10) DD Form 728 (Doctor's Orders).

As further laboratory reports, consultation reports, or other forms are completed, they are added to the record. These include such forms as SF 513 (Clinical Record—Consultation Sheet), SF 522 (Clinical Record—Authorization for Administration of Anesthesia and for Performance of Operations and other Procedures), and DA Form 8-249 (Report of Unusual Occurrence).

[illegible] *Identification Data.* Each form used must have complete and legible identifying data, whether typed, handwritten, or mechanically imprinted. With the exception of the form initiated in the Admission and Disposition Branch of the Registrar Division (DA Form 3647, Clinical Record Cover Sheet, in one of its variants), all forms are prepared on the ward. The cover sheet accompanies the patient to the ward when he is admitted or, in case of emergency, is forwarded to the ward at the earliest opportunity.

e. Use of Mechanical Imprinter. The mechanical imprinter supplied to the ward and the patient's addressograph plate (prepared in the Admission Office) save time in entering identifying data on clinical records. The imprinter and the addressograph plates are kept in the nurses' station. When the addressograph plate is used, it is inserted face up into the bed of the imprinter and the form to be imprinted positioned over the plate. The plate is removed from the imprinter after use and returned immediately to the designated ward file box.

f. SF 539 (Clinical Record—Abbreviated Clinical Record). The Abbreviated Clinical Record may be used in uncomplicated cases of brief duration in lieu of the following forms: SF 502 (Clinical Record—Narrative Summary), SF 504, SF 506, SF 511, SF 514, DD Form 640, and DD Form 728. An example of the use of this abbreviated form would be for an overnight admission for a patient undergoing a diagnostic test or a minor surgical procedure. The medical officer initiates this form, and both medical and nursing personnel enter pertinent information. Doctor's orders and nursing notes are written on the reverse side of SF 539.

5-37. Nursing Book Unit

The Nursing Book Unit commonly known as the "Kardex," is a visible-file book for centralized filing of designated clinical forms which are used and maintained by nursing service personnel. The Nursing Book Unit is kept at the nurses' station on the ward and is available only to authorized professional and nonprofessional personnel concerned with the care and treatment of patients. The following clinical record forms are maintained in the book unit: (1) DD Form 640 (Nursing Notes), (2) DD Form 728 (Doctor's Orders), and (3) SF 511 (Clinical Record—Temperature-Pulse-Respiration (Fahrenheit)—or SF 539 (Clinical Record—Abbreviated Clinical Record) *when authorized* to be used in lieu of these *three* forms—and (4) DA Form 8-250 (Nursing Care

Plan). It is the responsibility of the nurse in charge to check the book unit daily to insure accuracy and completeness of records. (The book unit is arranged and maintained in accordance with the method prescribed in AF 40–407.)

a. Arranging the Nursing Book Unit. Pockets numbered 1 through 40 are used as retainers for the specified clinical records of the individual patients. Identifying data on DD Form 728 (Doctor's Orders) show visibly through the margin of the file pocket and become the patient roster in the book unit.

(1) *Signal code tabs.* Colored plastic tabs provide pertinent information relative to the patient. The following standard color code is used: buff, bed number; green, doctor's orders; red, seriously ill (S.I.) or very seriously ill (V.S.I.): blue, nothing by mouth; and black, patient on pass. Other colored tabs may be adopted for additional information, depending on the requirements of the installation; *for example,* when patients from more than one service are on a ward, each service may be color coded—yellow may indicate general surgical or orange may indicate EENT.

(2) *Placement of color tabs.*

(*a*) *Buff tab.* This tab, furnished with the file book, is always placed to the extreme left.

(*b*) *Green tab.* This tab, the signal for doctor's orders, is always placed at the extreme right. When the doctor writes an order, he slides the green tab to the center to indicate an order has been written. When the order has been noted, the nurse (or responsible medical specialist) returns the green tab to the extreme right margin.

(*c*) *Red, blue, black tabs.* These tabs are inserted as needed, placing them to the right of the buff tab, but toward the left margin. The tabs must never extend beyond the center because they would then interfere with the movement of the green signal tab.

b. General Instructions for Recording Data.

(1) Only permanent black or blue-black ink is used since the clinical forms may be microfilmed or photostated. A conventional fountain or ballpoint pen is used. Entries may be written or printed but must be legible.

(2) If an incorrect entry has been made, a single straight line is drawn through the incorrect entry to indicate its elimination. Erasures and eradications invalidate records; therefore, such practice is prohibited. The person doing the recording authenticates the elimination or correction by placing his initials immediately above the entry eliminated or corrected. The right information is recorded following the correction.

(3) Nonprofessional personnel may be authorized to make appropriate entries.

NOTE

In discussing entries in the Clinical Record, Doctor's Orders, and Nursing Notes, reference to the nurse will also apply to the medical specialist if assigned these duties.

When a professional nurse is assigned, the entries are made under his immediate supervision. It is suggested that where a signature (first name, middle initial, last name) is required as in DD Form 640 (Nursing Notes) and in accounting for carrying out the doctor's order on DD Form 728 (Doctor's Orders) the rank be included with the signature of the medical specialist.

(4) Completed forms are filed in the patient's clinical record.

5–38. DD Form 728 (Doctor's Orders)

a. General. Study figure 5–27. Note that the form is divided into four sections: the date section, the orders section, the orders-discontinued section, and the administrative section.

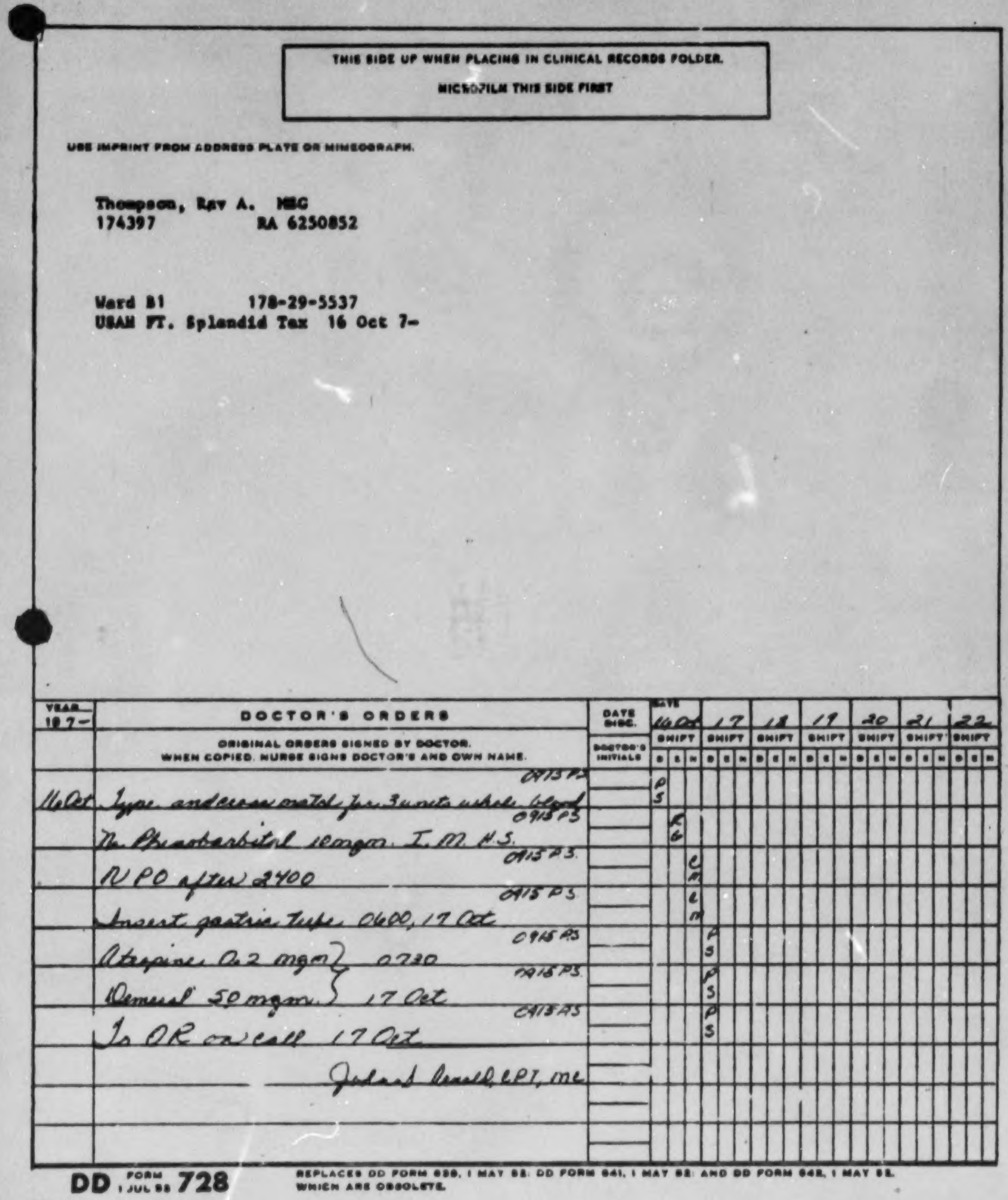
b. Method for Writing Orders. The doctor writes his orders in the orders section, with each order (or item in the order) on a separate line. Since orders will be accounted for individually, the entry "Routine Orders" to infer a number of individual orders is prohibited.

(1) All orders for care and treatment of patients must be written and signed by the doctor.

(2) Verbal orders, whether given in person or over the telephone, must be confined to emergency stat. orders. Verbal orders will be accepted only by Army Nurse Corps officers or civilian registered nurses. The individual receiving the order enters it in the Doctor's Order and writes the doctor's name, followed by the receiver's signature (first name, middle initial, last name), rank or status, and a notation of how order was received such as by telephone. The doctor countersigns the order at the earliest possible time.

c. Method of Discontinuing Orders. Orders are terminated on the written direction of the doctor. The doctor enters the date and his initials on the column marked "Date disc," on the line corre-

1099



THIS SIDE UP WHEN PLACING IN CLINICAL RECORDS FOLDER.

MICROFILM THIS SIDE FIRST

USE IMPRINT FROM ADDRESS PLATE OR MIMEOGRAPH.

Thompson, Ray A. MSG
174397 RA 6250852

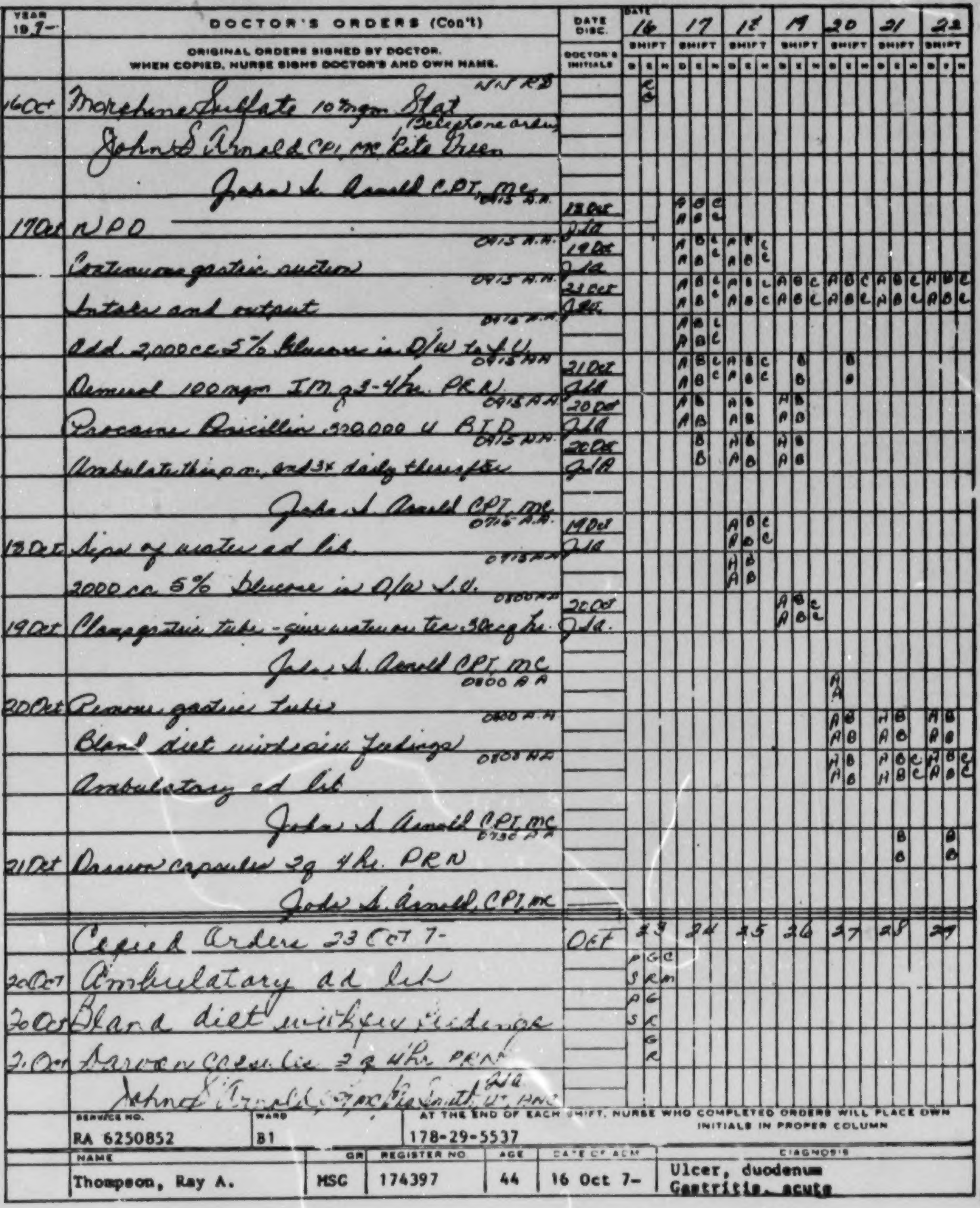
Ward B1 178-29-5537
USAH FT. Splendid Tex 16 Oct 7-

YEAR 197-	DOCTOR'S ORDERS	DATE DISC.	DATE 16 Oct			17			18			19			20			21			22		
	ORIGINAL ORDERS SIGNED BY DOCTOR. WHEN COPIED, NURSE SIGNS DOCTOR'S AND OWN NAME.	DOCTOR'S INITIALS	SHIFT			SHIFT			SHIFT			SHIFT			SHIFT			SHIFT			SHIFT		
			D	E	N	D	E	N	D	E	N	D	E	N	D	E	N	D	E	N	D	E	N
16 Oct	0915 PS Type and cross match for 3 units whole blood		PS																				
	0915 PS Na Phenobarbital 100 mgm. I.M. H.S.			KG																			
	0915 PS. NPO after 2400				CM																		
	0915 PS Insert gastric tube 0600, 17 Oct				CM																		
	0915 PS Atropine 0.2 mgm } 0730					PS																	
	0915 PS. Demerol 50 mgm. } 17 Oct					PS																	
	0915 PS To OR on call 17 Oct.					PS																	
	[illegible], CPT, MC																						

DD FORM 1 JUL 53 728

REPLACES DD FORM 639, 1 MAY 52: DD FORM 641, 1 MAY 52: AND DD FORM 642, 1 MAY 52, WHICH ARE OBSOLETE.

Figure 5-27 Completed DD Form 728 (Doctor's Orders).



YEAR 19 7-	DOCTOR'S ORDERS (Con't)	DATE DISC.	DATE 16			17			18			19			20			21			22		
	ORIGINAL ORDERS SIGNED BY DOCTOR. WHEN COPIED, NURSE SIGNS DOCTOR'S AND OWN NAME.	DOCTOR'S INITIALS	SHIFT			SHIFT			SHIFT			SHIFT			SHIFT			SHIFT			SHIFT		
			D	E	N	D	E	N	D	E	N	D	E	N	D	E	N	D	E	N	D	E	N
16 Oct	Morphine Sulfate 10 mgm Stat [illegible] RD			R S																			
	Telephone order John S. Arnold CPT, MC Rita Green																						
	John S. Arnold CPT, MC																						
17 Oct	0915 A.A. NPO	18 Oct JSA				A A	B B	C C															
	0915 A.A. Continuous gastric suction	19 Oct JSA				A A	B B	C C	A A	B B	C C												
	0915 A.A. Intake and output	21 Oct JSA				A A	B B	C C	A A	B B	C C	A A	B B	C C	A A	B B	C C	A A	B B	C C	A A	B B	C C
	0915 A.A. Add 2,000 cc 5% Glucose in D/W to I.V.					A A	B B	C C															
	0915 A.A. Demerol 100 mgm IM q 3-4 hr. PRN	21 Oct JSA				A A	B B	C C	A A	B B	C C		B B			B B							
	0915 A.A. Procaine Penicillin 300,000 U BID	20 Oct JSA				A A	B B		A A	B B		A A	B B										
	0915 A.A. Ambulate this p.m. and 3x daily thereafter	20 Oct JSA					B B		A A	B B		A A	B B										
	John S. Arnold CPT, MC																						
18 Oct	0915 A.A. Sips of water ad lib.	19 Oct JSA							A A	B B	C C												
	0915 A.A. 2000 cc 5% Glucose in D/W I.V.								A A	B B													
19 Oct	0800 A.A. Clamp gastric tube - give water or tea 30cc q hr.	20 Oct JSA										A A	B B	C C									
	John S. Arnold CPT, MC																						
20 Oct	0800 A.A. Remove gastric tube														A A								
	0800 A.A. Bland diet with six feedings														A A	B B		A A	B B		A A	B B	
	0800 A.A. Ambulatory ad lib														A A	B B		A A	B B	C C	A A	B B	C C
	John S. Arnold CPT, MC																						
21 Oct	0730 A.A. Darvon capsules 2 q 4 hr. PRN																		B B			B B	
	John S. Arnold, CPT, MC																						
	Copied Orders 23 Oct 7-	Oct	23			24			25			26			27			28			29		
20 Oct	Ambulatory ad lib		P S	G R	C m																		
20 Oct	Bland diet with six feedings		P S	G R																			
21 Oct	Darvon capsules 2 q 4 hr. PRN			G R																			
	John S. Arnold, CPT MC / Rita Smith 2Lt, ANC																						

SERVICE NO.	WARD	AT THE END OF EACH SHIFT, NURSE WHO COMPLETED ORDERS WILL PLACE OWN INITIALS IN PROPER COLUMN			
RA 6250852	B1	178-29-5537			
NAME	GR	REGISTER NO	AGE	DATE OF ADM	DIAGNOSIS
Thompson, Ray A.	MSC	174397	44	16 Oct 7-	Ulcer, duodenum Gastritis, acute

Figure 5-27—Continued.

sponding to and opposite the order he desires discontinued. Automatic stop orders, as established [illegible] local policy, will be noted by the nurse to indicate order is discontinued.

d. Procedures for Accounting for and Charting of Doctor's Orders. All orders are accounted for directly on DD Form 728 and, with the exception of narcotic orders, stat. orders, and p.r.n. orders, no further notations on their administration are transcribed in the nursing notes, unless professional judgment indicates need for additional information. Although practice may vary in minor details from hospital to hospital, AR 40–407 states that orders are accounted for as follows:

(1) *All orders.* When order is noted, the nurse or responsible individual will enter the time and initials on the same line as the order to indicate that appropriate action has been initiated.

(2) *Continuing orders.* All continuing orders will be accounted for in columns marked "D," "E," and "N" (day, evening, and night) once each 8-hour period. The responsible person will record initials on line opposite each order and in appropriate column to signify that the order was carried out during that period.

Example

Diet—Hospital regular diet
Medication—Prednisone 0.005 gm. q. 4 h.
Treatment—Hot soaks to left heel, q. 2 h.
Laboratory Examination—Urinalysis, daily for 7 days

(3) *One-time consultation, X-ray, and laboratory examinations, treatments, p.r.n., narcotic, and stat. orders.* Accomplishment of this category of orders will be noted in the Nursing Notes.

Example

Chest X-ray
Psychiatric consultation
Urinalysis
Morphine sulfate 0.015 Gm stat., then q. 4 h. p.r.n.

e. Copying Orders. When the weekly spaces in the administration section are filled, a line is drawn across the entire page at the level of the last entry. Directly below this line the new dates for the coming week are written. All orders still in effect are copied, including the date and the name of the doctor who wrote the original order. T[illegible] individual copying orders will authenticate them by signature and rank or status. The word "copied" and the date will precede the copied orders. The responsible physician will then review the copied orders and place his initials over the signature.

5–39. DD Form 640 (Nursing Notes)
(fig. 5–28)

a. General. Although the quantity of nursing notes must be kept to a minimum, they must contain objective observations of the patient's condition and pertinent data relative to his nursing care. They should include observations of physical and mental status, symptoms, response to therapy, and change noted in any aspect of these. Since nursing notes aid in diagnoses, furnish reference material for research and teaching, and provide important evidence in event of litigation, it is essential that all entries be made with these factors in mind. The person making the entry should—

(1) Record notations first on the left half and, after these are filled, on the right half of each page.

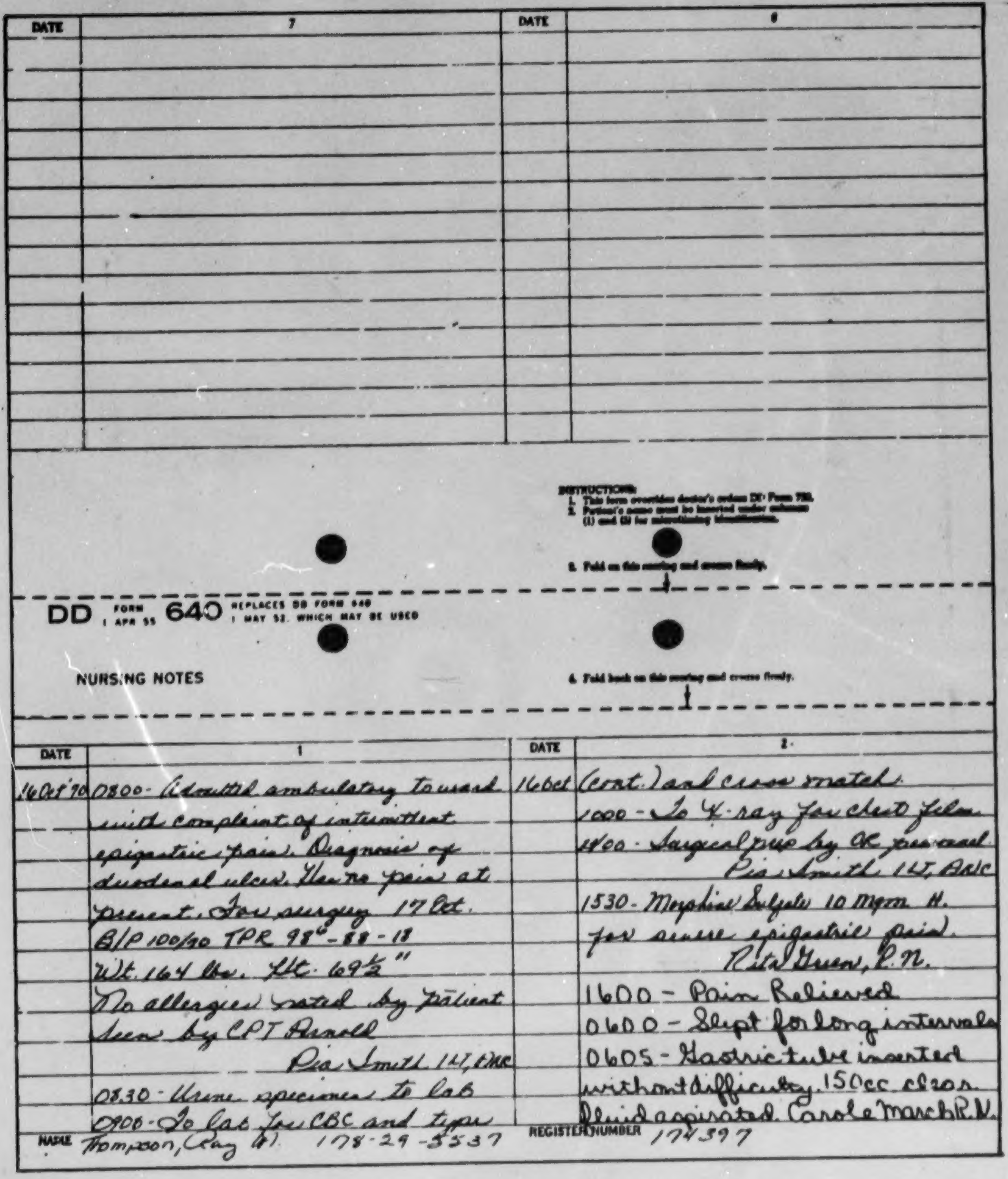
(2) Sign each entry. During hours when only one individual is on duty or when the patient is the complete responsibility of one individual for the entire tour of duty, the signature may be recorded after the final entry.

(3) Make at least one entry for each acutely ill patient during each 8-hour period. (One entry per week is considered sufficient for a long-term patient whose care requires only routine nursing measures.)

b. Charting of Specific Information in Nursing Notes.

(1) *Admission notes.* Date, time, and manner of admission (ambulatory, wheelchair, or stretcher) are included, plus a brief, clear description of symptoms and pertinent observations (condition of skin, presence of decubiti, burns, wounds, dressings, or prostheses), TPR, BP, height, and weight determination are noted at time of admission. The patient is questioned about allergic reactions and the reply noted. Additional admission notes are governed by the special service to which the patient is admitted. A locally produced form may be used for initial recording of admission notes but the information is then transcribed to the Nursing Notes.

(2) *Discharge notes.* Date, time, and manner of discharge (ambulatory, wheelchair, or stretcher) are noted.



DATE	7	DATE	8

INSTRUCTIONS:
1. This form overrides doctor's orders DD Form 792.
2. Patient's name must be inserted under columns (1) and (2) for microfilming identification.
3. Fold on this scoring and crease firmly.
4. Fold back on this scoring and crease firmly.

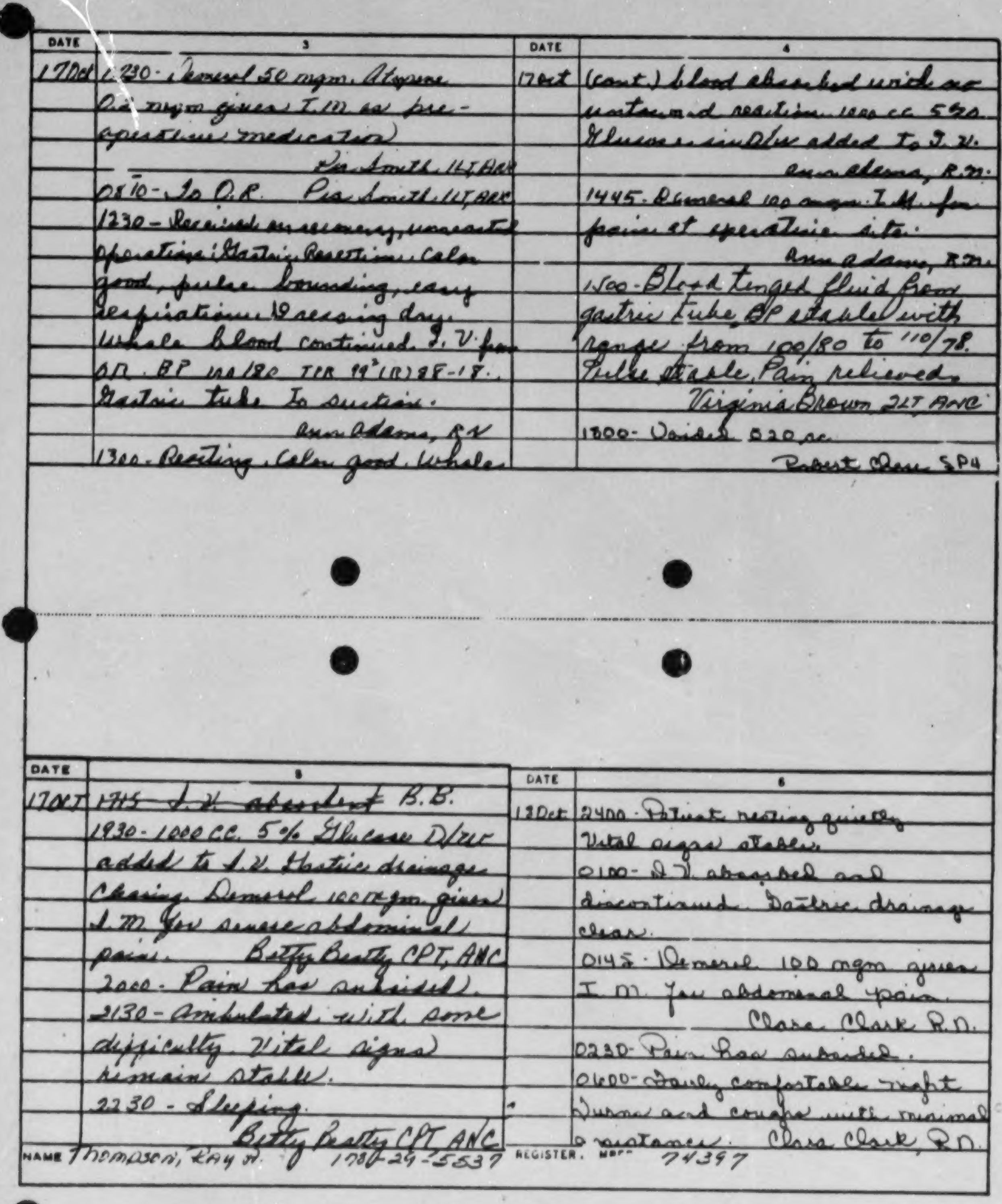
DD FORM 1 APR 55 640 REPLACES DD FORM 640, 1 MAY 52, WHICH MAY BE USED

NURSING NOTES

DATE	1	DATE	2
16 Oct '70	0800- Admitted ambulatory to ward	16 Oct	(cont.) and cross match.
	with complaint of intermittent		1000 - To X-ray for chest film
	epigastric pain. Diagnosis of		1400 - Surgical prep by OR personnel.
	duodenal ulcer. Has no pain at		Pia Smith 1LT, ANC
	present. For surgery 17 Oct.		1530- Morphine Sulfate 10 Mgm. H.
	B/P 100/70 TPR 98⁶-88-18		for severe epigastric pain.
	Wt. 164 lbs. Ht. 69½"		Rita Green, R.N.
	No allergies noted by patient		1600 - Pain Relieved
	Seen by CPT Arnold		0600 - Slept for long intervals
	Pia Smith 1LT, ANC		0605 - Gastric tube inserted
	0830 - Urine specimen to lab		without difficulty. 150cc cl20s.
	0900 - To lab for CBC and type		fluid aspirated. Carole March R.N.

NAME Thompson, Ray W. 178-29-5537 REGISTER NUMBER 174397

Figure 5-28. Completed DD Form 640 (Nursing Notes).



DATE	3
17 Oct	0730 - Demerol 50 mgm. Atropine
	0.4 mgm given I.M. as pre-
	operative medication
	Pia Smith, 1LT ANC
	0810 - To O.R. Pia Smith, 1LT ANC
	1230 - Received in recovery, unconscious
	Operation: Gastric Resection. Color
	good, pulse bounding, easy
	respirations. Dressing dry.
	Whole blood continued. I.V. from
	OR. BP 110/80 TPR 99² (R) 88-18.
	Gastric tube to suction.
	Ann Adams, RN
	1300 - Resting. Color good. Whole

DATE	4
17 Oct	(cont.) blood absorbed with no
	untoward reaction. 1000 cc 5%
	Glucose in D/W added to I.V.
	Ann Adams, R.N.
	1445 - Demerol 100 mgm. I.M. for
	pain at operative site.
	Ann Adams, R.N.
	1500 - Blood tinged fluid from
	gastric tube. BP stabilized with
	range from 100/80 to 110/78.
	Pulse stable. Pain relieved.
	Virginia Brown 2LT ANC
	1800 - Voided 820 cc.
	Robert [illegible] SP4

DATE	5
17 OCT	~~1945 I.V. absorbed~~ B.B.
	1930 - 1000 cc. 5% Glucose D/W
	added to I.V. Gastric drainage
	Clearing. Demerol 100 mgm given
	I.M. for severe abdominal
	pain. Betty Beatty CPT, ANC
	2000 - Pain has subsided.
	2130 - Ambulated with some
	difficulty. Vital signs
	remain stable.
	2230 - Sleeping.
	Betty Beatty CPT ANC

DATE	6
18 Oct	2400 - Patient resting quietly
	Vital signs stable.
	0100 - I.V. absorbed and
	discontinued. Gastric drainage
	clear.
	0145 - Demerol 100 mgm given
	I.M. for abdominal pain.
	Clara Clark R.N.
	0230 - Pain has subsided.
	0600 - Fairly comfortable night
	Turns and coughs with minimal
	assistance. Clara Clark, R.N.

NAME Thompson, Ray R. 178-29-5537 REGISTER. NO. 74397

Figure 5-25—Continued.

(3) *Medications and treatment.* Only narcotic orders, stat., and p.r.n. orders for medications and treatments are charted on DD Form 640. A complete entry is made each time they are administered, including the time, name of medication or treatment, and the reason for administration. If for any reason a scheduled medication or treatment is not given, this fact and the reason is entered.

(4) *TPR and BP recordings.* These determinations, transcribed from DA Form 8-220 (TPR Record (Worksheet)) are entered on the Nursing Notes when SF 539 (Abbreviated Clinical Record) is used. Normally, these determinations will be recorded on the graphic portion of SF 511 (Temperature-Pulse-Respiration). Sudden or marked changes in the vital signs may be indicated on the Nursing Notes as well as on SF 511.

(5) *Intake and output totals.* These totals, transcribed from DD Form 792 (Nursing Service—Twenty-Four Hour Patient Intake and Output Worksheet) are entered on the Nursing Notes only when SF 539 is used. Normally, these totals will be recorded on SF 511.

(6) *Laboratory and X-ray examinations, off-ward clinic visits.* Information relative to date, hour, laboratory, or clinic visited and type of examination is noted.

(7) *Special procedures.* Diagnostic and therapeutic procedures, special nursing measures performed at the bedside, and unusual occurrences are charted in Nursing Notes. Notations include time, name of procedure, by whom performed, specimen obtained or brief description of what was done, and the reaction of the patient.

5-40. SF 511 (Clinical Record—Temperature-Pulse-Respiration (Fahrenheit))

This form is a graphic form used to chart a number of the patient's physical responses such as vital sign determinations, intake and output, and weight. In using SF 511, special attention must be given to the entry blocks indicating hospital day, postoperative day, date, and hour blocks.

a. Hospital Day and Postoperative Day. The day the patient is admitted to the hospital is considered his first hospital day and is so entered on SF 511 (fig. 5-29). The day surgery is performed is the surgery day, not the first postoperative day.

b. Date and Hour Blocks. These entries are divided into seven major columns, one for each day for one week. Each daily column is subdivided into 2 parts (fig. 5-29) to be used as a.m. and p.m.; each subdivision is further divided by two vertical dotted lines.

NOTE

> The dots in the lines divide the vertical spaces on the graph into 5 even divisions, each division corresponding to 0.2 degree of temperature or 2 pulse beats.

(1) The symbols illustrated on SF 511 are used—a solid dot for temperature and an open dot for pulse. These symbols are placed between the columns and rows of dots and joined by a straight line (temperature symbol to temperature symbol, etc.).

(2) If the route of determining temperature is other than oral, it should be indicated by (R) for rectal and (A) for axillary.

(3) The number of respirations are written in digits in the space for "Respiration Record."

(4) Blood pressure will be entered on the indicated row below the graphic portion.

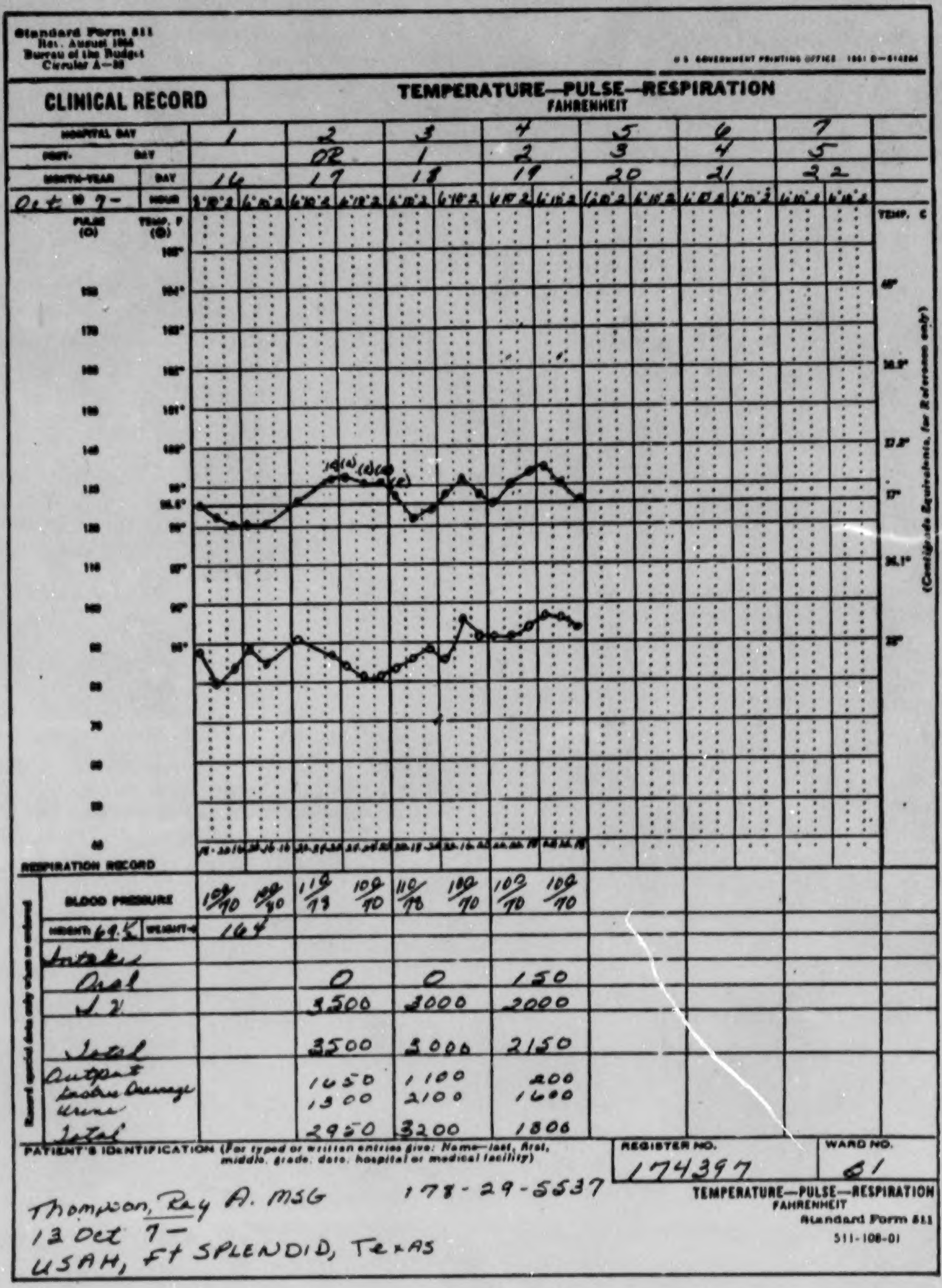
(5) Frequent blood pressure determinations may be recorded on the graphic portion of the form by entering an "X" at points equivalent to the systolic and diastolic levels and connecting the two with a vertical solid line.

c. Special Data Section. In addition to blood pressure, height, and weight, total intake and output for 24-hour periods may be recorded in this area. This information is transcribed from DD Form 792 (Nursing Service—Twenty-Four Hour Patient Intake and Output Worksheet).

d. Transcription of Data. Use information from DA Form 8-220 and DD Form 792 for transcription of data to the graphic record. (When the medical specialist is first learning to chart information under the nurses' immediate supervision, this transcription of data is often the first entry he makes on clinical records.) Use care and give undivided attention to the assignment.

5-41. DA Form 8-250 (Nursing Care Plan)

a. General. This form is maintained in a separate book unit. The patient identification data should be entered as indicated. The purpose of this form is to assist the nurse in planning individualized nursing care for those patients designated by the clinical head nurse. All persons involved in the care of the patient contribute to the


PULSE (O)
TEMP. F (●)
TEMP. C
(Centigrade Equivalents, for Reference only)

Standard Form 511
Rev. August 1954
Bureau of the Budget
Circular A-32

U S GOVERNMENT PRINTING OFFICE 1961 O-614284

CLINICAL RECORD

TEMPERATURE—PULSE—RESPIRATION
FAHRENHEIT

HOSPITAL DAY	1	2	3	4	5	6	7
POST- DAY		OR	1	2	3	4	5
MONTH-YEAR: Oct 19 7- / DAY	16	17	18	19	20	21	22
HOUR	2 10 2 / 6 10 2	6 10 2 / 6 10 2	6 10 2 / 6 10 2	6 10 2 / 6 10 2	6 10 2 / 6 10 2	6 10 2 / 6 10 2	6 10 2 / 6 10 2
BLOOD PRESSURE	108/70 108/80	119/78 109/70	110/78 109/70	103/70 109/70			
HEIGHT 69.5 / WEIGHT	164						
Intake							
Oral		0	0	150			
I.V.		3500	3000	2000			
Total		3500	3000	2150			
Output Gastric Drainage Urine		1650 1300	1100 2100	200 1600			
Total		2950	3200	1800			

RESPIRATION RECORD

Record special data only where so ordered

PATIENT'S IDENTIFICATION (For typed or written entries give: Name—last, first, middle; grade; date; hospital or medical facility)

Thompson, Ray A. MSG 178-29-5537
13 Oct 7—
USAH, Ft SPLENDID, Texas

REGISTER NO. 174397

WARD NO. 61

TEMPERATURE—PULSE—RESPIRATION
FAHRENHEIT
Standard Form 511
511-108-01

Figure 5-29. Completed SF Form 511 (Temperature-Pulse-Respiration).

development of the plan, although the head nurse or his designated professional nurse representative is responsible for its preparation. Entries are made in pencil to permit modification as required.

b. Contents. There are three essential parts of a nursing care plan.

(1) The medical components are those aspects of the treatment ordered by the medical officer; *for example*, "Give oxygen at 8 liters per minute by face mask p.r.n."

(2) General nursing aspects include hygienic care and comfort measures, dietary and fluid balance requirements, and physical activity limitations of the patient which are not specifically governed by medical orders.

(3) Special components of nursing are those which result from the individual's response to the hospital experience. Identification of the needs and nursing requirements of each of the patients requires assessment of the individual's likes and dislikes, worries and fears, and reassessment of them on an ongoing basis.

Each item identified should be accompanied by a suggested nursing approach.

c. Use. If the nursing care plan is to be more than a paper exercise, it must be *known* to all nursing team members and *used*. Before starting his care of a patient, the medical specialist should always check the nursing care plan. To be of value, the nursing care plan must be kept current. The medical specialist caring for the patient can pick up valuable clues, and he must pass this information on to the clinical head nurse for inclusion in the plan.

d. Disposition. This form does not become part of the patient's clinical record and will be destroyed when no longer required.

5-42. Observation of Patients

Observation of a patient is taking notice of signs and symptoms which indicate the patient's physical or mental condition. Observation is essential at all times, from the patient's admission until his discharge. The doctor depends upon nursing personnel to observe and to recognize, report and record the patient's condition accurately during the day and night. Effective observation helps (1) to aid the doctor in making a diagnosis and in prescribing treatment, (2) to determine the effects of a prescribed course of treatment, and (3) to modify nursing care to fit the needs of patient.

a. Signs and Symptoms. Signs and symptoms are evidences of a patient's condition and of any disability. Signs are objective evidences that can be detected by one of the senses (sight, hearing, touch, smell, or taste). They can be noticed by an observer as well as by the individual experiencing them; for example, a rash can be seen, a swollen area can be seen and felt, a snoring respiration can be heard, the odor of a patient's body can be smelled. Symptoms are any functional, rather than structural, evidences; they may be objective and therefore noticeable by an observer, as well as by the individual experiencing them—or they may be subjective (the individual's own sensations). Examples of subjective symptoms are pain, nausea, and ringing in the ears.

b. Causes of Symptoms and Signs. There are three main groups of symptoms and signs to know in order to become efficient: (1) those caused by the disease or injury with which the patient suffers, (2) those relating to nursing care such as cramps resulting from too rapid administration of enema fluid, and (3) those caused by the medicine given to the patient (*for example*, morphine can produce slow breathing, drowsiness, and pinpoint pupils).

c. Training and Developing Power of Observation. To increase skill in observing the patient's condition, the specialist should (1) increase his background knowledge, (2) take an active interest in the patient, (3) develop a sympathetic understanding of the whole patient, and (4) strive to be a good listener, attentive and accurate. The specialist can increase his knowledge by conscientious and accurate use of all senses and by accumulating a fund of information from books and from leaders on the patient care team concerning the symptoms to expect in various patient conditions. He can give attentive interest when the patient states how he feels. He can also try to anticipate the patient's emotional and physical needs and discomforts and do what can be done appropriately to relieve him. Lastly, he can be accurate and conscientious in the performance of procedures which uncover signs of illness, such as taking the pulse, measuring intake and output, and taking blood pressure.

d. Reporting and Recording Observations. Reporting should be done away from the patient's bedside and out of his sight and hearing if possible, in order to reduce any anxiety or misunderstanding. Any comments made in the patient's presence should be appropriate to what the patient needs to know or to hear about his condition. Plain, everyday, factual language is used in reporting and recording. The patient is always identified by name, and the time the observation was made is noted.

(1) Any nursing measure provided should be reported, including a statement as to whether the measure seemed to help or not.

(2) Complaints and signs of pain should be reported as precisely as possible. Such things as location, plus any statement from the patient that the pain is sharp, dull, aching, throbbing, constant, or knifelike, are important. If the patient is being quoted, his exact words should be used. *For example*, if the patient says, "I feel terrible," the report should not say, "the patient complains of malaise." The patient should be asked how long he has had the pain. In observing him, particular note should be made of—

(*a*) Position assumed to relieve the pain. Is he bent over, curled up in bed, unwilling to take a deep breath or to straighten an arm or leg?

(*b*) Measures already used to relieve the pain. Has he had a medication? Did the medication relieve him for a period of time? Did any change of position relieve him?

Observation to be Made. It is important to note signs of health, indications of returning strength, and a feeling of well-being, as well as noting disabilities and signs of distress. The specialist must become aware of the patient's interest in his personal appearance and grooming. (For women patients, interest in applying lipstick and concern about hair styling is noteworthy; for men, interest in shaving, use of aftershave lotion, and a haircut.)

(1) It is particularly necessary to be conscious of a patient's eating and drinking habits (appetite, thirst), sleeping habits (naps during the day and restless or wakeful intervals at night), and changes in respiratory and pulse rates in relation to bed rest, ambulation, and treatment procedures.

(2) A guide or checklist for observing the patient in relation to his environment, his own general appearance, functioning of body systems, and treatment measures employed is given in table 5-1.

5-43. Vital Signs

General. Temperature, pulse, respiration (TPR) and blood pressure (BP) are called vital signs (VS) because they are important signs of the body for indicating the condition of the patient. The measurement of these signs and their close relationship aid the doctor in making a diagnosis and prescribing treatment. They also help to determine the amount and kind of nursing care necessary. For greater accuracy, these signs are checked while the patient is at rest. Any marked deviation from a normal range is a signal of distress sent out of the body. TPR and BP measurements of every patient are taken and recorded upon admission. Subsequently, TPR measurements are taken routinely on all patients according to ward policy, often on a twice-daily schedule. BP is taken on an individual basis. The ward officer will specify the hourly interval for an individual patient by writing an order; *for example*, TPR and BP q. 4 h., or VS q. 4 h.

b. Temperature. Temperature is the degree of heat in the body. It is determined by the balance maintained between the heat produced and the heat lost through normal body processes. Heat produced is distributed by the circulating blood. Excessive heat is eliminated through the skin, lungs, and excreta. When the balance is disturbed, deviations in body temperature result.

(1) *Normal temperature*. The temperature tends to be lower in the early morning after a night of rest and higher in the evening after a day of activity. The range is between 97 and 99 degrees when measured by a mouth thermometer. The average normal temperature is considered to be 98.6 degrees F.

(2) *Abnormal temperature*.

(*a*) *Fever*. An elevated temperature is called a fever. It is usually one of the first indications of an infection or other disease process.

(*b*) *Subnormal*. Deviations which persist below the average normal temperature are the result of lowered vitality. A subnormal temperature may be caused by shock, starvation, or a long lasting illness. It indicates body resistance is low.

c. Pulse. Changes in the character of the pulse may be caused by: (1) any factor that interferes with the function of the heart, (2) the volume of circulatory blood, and (3) the elasticity of the artery wall. Characteristics and rate of the normal pulse vary slightly in individuals.

(1) *Normal pulse*. Generally, the normal pulse is regular in rate, rhythm, and force (strength). The average range is 60 to 80 pulse beats per minute, but normal variations occur,

Table 5-1. Guide for Nursing Observations

Observation	Checklist			
1. *Ward Environment:*				
General appearance	Clean	Orderly	Spacious	Crowded
Noise	Loud talking	Banging equipment	Radios, T.V.	Unanswered telephone
Ventilation	Fresh air	Unpleasant odors	Drafts	Stale, smoky air
Temperature	Check wall thermometer	Cool for sleeping (below 70°)	Warm for treatments (70° or above)	If fans used, not blowing on patient
Light	Glaring	Shining in eyes	Adequate for reading	Shaded properly
Patient Units	Clean	Orderly	Signal cord within reach	Bedside stand within reach
2. *The Patient:*				
General appearance	In pain	Fatigued	Looks well	Looks ill
Behavior	Restless	Unconscious	Depressed	Responsive
Position	Able to move self	Favors one position	Slides down in bed	Comfortable and in good alinement
Bedding	Clean	Disarranged	Constricting to feet	Foundation wrinkle free
Appliances/Apparatus	What is being used?	Operating correctly?	Safety factors involved?	Patient reactions?
Intake (food and fluids)	Is drinking water available?	Can patient reach water?	If intake restricted, is a sign posted?	Is I & O record at bedside?
Output (frequency, amount, and character).	Vomitus	Urine	Feces	Drainage (wounds, catheters, and all tubes)

with increased rate associated with exercise and emotional activity. Any irregularities in rate, rhythm, and force are reported immediately. In addition to taking the pulse at the same time as the temperature, the pulse is also taken routinely before and after such activity as getting out of bed the first time or before receiving medications affecting the pulse.

(2) *Pulse irregularities.* The term "thready" describes a weak, rapid pulse. The term "arrhythmia" describes both irregular intervals between beats and beats of unequal force. An irregular pulse must be counted for one full minute; a regular pulse may be counted for 30 seconds and then multiplied by 2.

d. Respiration. The complete cycle of inhalation (breathing in) and exhalation (breathing out) is one respiration. Normal respiration is carried on automatically without effort and is regular in rate, rhythm, and depth. The normal range in adults is 16 to 20 respirations per minute. Since respirations can be consciously controlled to some extent, they are counted when a patient is unaware of the procedure, if possible. Any disease or injury that affects the lungs, chest wall, or oxygen-carrying ability of the blood will usually affect the respiratory rate or the effort needed to inhale and exhale. If breathing movements are painful, the patient is reluctant to take a breath of sufficient depth to aerate his lungs, and must be reminded and assisted to take periodic deep breaths at regular intervals. Terms used to describe irregularities in respirations include—

(1) *Dyspnea.* Difficult or labored breathing. Dyspnea that is relieved when the patient sits in an upright position is orthopnea.

(2) *Apnea.* Temporary absence of breathing. A period of apnea may last for 30 to 60 seconds. Normally, after a brief period of apnea, the carbon dioxide level in the blood builds up suffi-

ciently to signal the respiratory center in the brain to stimulate normal breathing movements. [illegible]eriod of apnea followed by a series of rapid breaths recurring in a cycle is called Cheyne-Stokes respirations. This type of periodic breathing may be observed in critically ill patients and is considered a sign of approaching death.

e. Blood Pressure (BP). The term blood pressure is usually interpreted to mean the pressure of blood within the arteries. (Paragraph 2-37*b* defines blood pressure, systolic pressure, and diastolic pressure.) BP is written as a fraction, with systolic pressure the numerator and diastolic pressure the denominator; *for example,* in a BP reading of 120/80, 120 is the systolic pressure and 80 is the diastolic pressure. For adults, the normal range of systolic blood pressure is 100–140; normal range of diastolic pressure is 60–90. Pulse pressure is determined by subtracting the diastolic from the systolic pressure. (If the BP is 120/80, the pulse pressure is 120–80 or 40.) Pulse pressure indicates how well the heart and blood vessels are coordinating. Abnormalities of blood pressure are—

(1) *Hypertension.* Abnormally high BP. It is associated with the disease condition of arterios[illegible]rosis (hardening and narrowing of the arteries).

(2) *Hypotension.* Abnormally low blood pressure. It is associated with weakened heart action and lowered circulating blood volume as in shock.

f. Recording TPR and BP. These vital signs are recorded immediately on the worksheet (DA Form 8-220, Temperature, Pulse, and Respiration Record) by the person who takes them.

5–44. TPR Measurement

a. Thermometers. Body temperature is measured by a clinical thermometer, a glass shaft with the stem calibrated in 0.2 degree Fahrenheit (F). Within the stem is a hollow tube extending from a bulb end. The bulb contains mercury which, when warmed, expands and rises in the tube.

(1) *Types of clinical thermometers.* Two types, oral and rectal, are commonly used. Each is identified by the shape of the bulb. The standard oral thermometer (fig. 5–30) has a long slender bulb, but occasionally an oral thermometer with a sh[illegible]stubby bulb is supplied. The standard rectal thermometer has a large rounded or pear-shaped bulb (fig. 5–30) specially designed to prevent damage to the mucosa when it is inserted into the rectum.

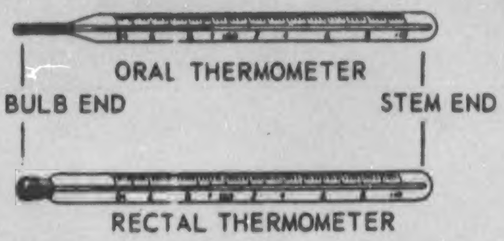


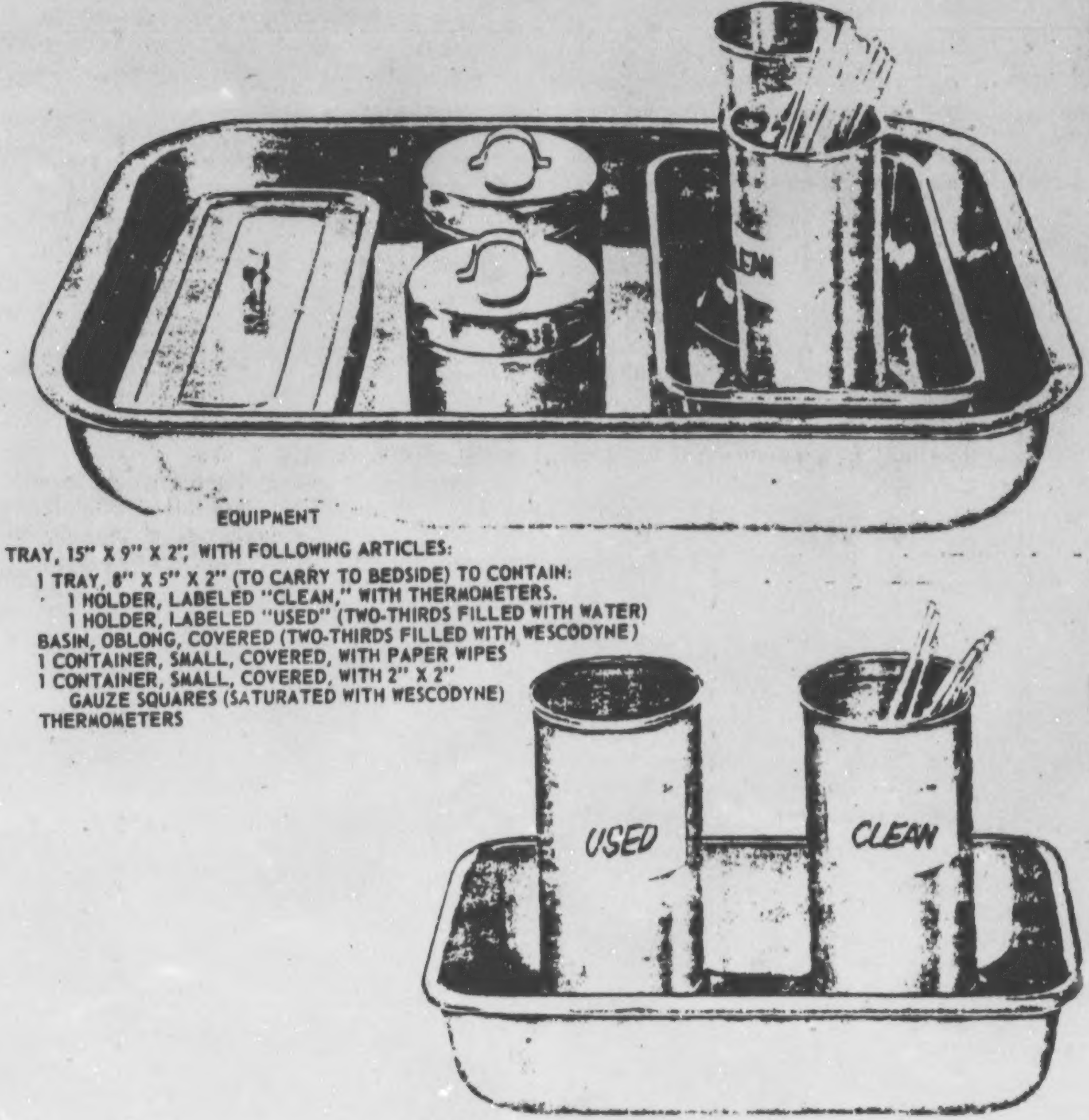
Figure 5–30. Types of thermometers.

(2) *Reading the thermometer.* Hold the thermometer by the stem end and notice the ridge side, with numbers below the ridge and lines indicating 0.2 fractions above. With ridge edge at eye level, rotate the thermometer slowly forward and backward until the column of mercury is seen. Read the highest level of the column to the nearest 0.2 degree. Notice that an arrow points to the average normal temperature mark, 98.6 degrees.

(3) *Shaking down the thermometer.* Grasp the stem end firmly. Stand in a clear space to avoid striking anything with the thermometer, and with a sharp downward wrist motion, shake the thermometer. Check the mercury column, and repeat the shaking procedure, if necessary, to lower the column to the 95 degree mark. Always check and shake down the thermometer p.r.n. before using it.

b. Use and Care of Thermometers. Thermometers are fragile and must be handled carefully for safety and economy. The number of thermometers available for use should correspond to the patient census. Each patient is provided with a clean, sanitized thermometer each time his temperature is taken.

(1) *CMS thermometer exchange method.* A present-day recommended method for use and care of thermometers, oral and rectal, is to obtain clean thermometers in the required quantity daily from CMS and to return used thermometers daily to CMS for decontamination and processing for reissue. In CMS units that have ethylene-oxide-gas-sterilization capability, the thermometers are sterilized, between use—the alternative method is by mechanical cleaning and chemical soaking for disinfecting. In either method, thermometers are usually issued from CMS in paper envelopes. The paper protective covering is removed at the bedside or other patient-use area just before the thermometer is used in order to reduce handling of clean thermometer.



EQUIPMENT

TRAY, 15" X 9" X 2", WITH FOLLOWING ARTICLES:
1 TRAY, 8" X 5" X 2" (TO CARRY TO BEDSIDE) TO CONTAIN:
1 HOLDER, LABELED "CLEAN," WITH THERMOMETERS.
1 HOLDER, LABELED "USED" (TWO-THIRDS FILLED WITH WATER)
BASIN, OBLONG, COVERED (TWO-THIRDS FILLED WITH WESCODYNE)
1 CONTAINER, SMALL, COVERED, WITH PAPER WIPES
1 CONTAINER, SMALL, COVERED, WITH 2" X 2"
GAUZE SQUARES (SATURATED WITH WESCODYNE)
THERMOMETERS

*Figure 5–31. Standard oral thermometer tray.**

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* Standard rectal thermometer tray is the same as the oral tray with the following exceptions:
Rectal thermometers, pear-shaped bulb.
Tube of lubricant jelly.
All containers are labeled "Rectal" in black paint.

(2) *Standard thermometer tray method, ward care* (fig. 5–31).

METHODS OF TAKING TEMPERATURE

ORAL TEMPERATURE

This is the most convenient method and can be used for adult responsive patients.

CAUTION

Wait 15 minutes before taking the temperature if the patient has just had a hot or cold drink or has been smoking. Request patient to remove any chewing gum from the mouth. Instruct the ambulatory patient to be seated.

Procedure

1. Check clean, dry thermometer. Shake down to [illegible]5 degrees, p.r.n.

CAUTION

Handle thermometer by stem end only.

2. Place bulb end under patient's tongue, where it will be near large blood vessels. Instruct patient to close lips firmly around stem. Leave thermometer in place for 3 minutes.
3. Remove thermometer. Wipe with a tissue square from stem to bulb to remove saliva. Read. Record, using decimal; *for example*, "98.4."
4. Place thermometer in "used" oral thermometer holder.

RECTAL TEMPERATURE

This is the most accurate method. It is used for all infants and young children and for adults who are unconscious or irrational, or who have difficulty breathing with the mouth closed. It is not used on patients who have had rectal surgery or have had a rectal disorder.

Procedure for Taking the Temperature of an Adult by Rectum

1. Screen the patient. Then turn him on his side (Sims position) and expose the buttocks.
2. Lift the upper buttock to expose the anus. Insert the well-lubricated bulb of the thermometer slowly and carefully about 1½ inches into the anus.
3. Hold thermometer in place for 2 minutes.
4. Remove thermometer. Wipe downward with paper tissue. Read. Record with "R" on the worksheet; *for example*, "99.8 (R)." (A rectal temperature is usually 1 degree higher than oral temperature.)
5. Place rectal thermometer in "used" rectal holder.

AXILLARY TEMPERATURE

When temperature can be taken neither orally or rectally, it can be taken under the arm where the thermometer bulb can be surrounded by body tissue. To take the temperature by axilla, use an oral thermometer.

Procedure

1. [illegible] the armpit dry with a tissue or towel. Place the bulb of the oral thermometer in the center of the armpit.
2. Fold the patient's arm across his chest with his fingers on the opposite shoulder.
3. Leave thermometer in place for 10 minutes. Read and record in this manner: "100.2 (A)." (Axillary temperature is usually 1 degree lower than oral temperature.)
4. Place thermometer in "used" oral holder.

NOTE

If individual technique is used, follow the same cleansing procedure as for oral thermometers before replacing the thermometer in the container of germicide at the patient's bedside.

Care of Equipment

1. Remove contaminated thermometers from "used" holder.
2. Cleanse thermometers with gauze square saturated with green soap. Cleanse each thermometer with a twisting motion from stem to bulb end. Rinse under running water.
3. Place thermometers in a basin of Wescodyne solution, 150 ppm, for 30 minutes.
4. Wash and dry thermometer holders. Place layer of cotton in the bottom of each.
5. Remove thermometers from Wescodyne solution, rinse under running cold water and dry.
6. Shake down thermometers and return to "clean" holder.
7. Return small tray with holders to proper space on large tray.
8. Boil all containers on thermometer tray and change the Wescodyne solution once daily.

NOTE

When individual thermometer technique is used, the thermometer is kept at the patient's bedside in a small container two-thirds filled with Wescodyne. A container of gauze squares saturated with green soap is provided for mechanical cleansing of the thermometer from stem to bulb end before returning it to the container.

TAKING THE PULSE

The pulse may be taken wherever an artery lying near the surface of the body can be pressed against firm tissue. Pulse is usually taken by applying slight pressure to the radial artery on the thumb side of the wrist. A watch with a second hand is used to time the pulse rate.

RADIAL PULSE MEASUREMENT

The patient should be relaxed and lying in bed or seated. The arm used (preferably the left arm) is extended in supination (palm up) and supported on the bed or chair arm.

1. Place tips of first, second, and third fingers on pulse point. (Do not use the thumb as the thumb has its own pulsation which can be confusing.) Press fingers firmly to feel pulse. Count pulse. Remember, any irregularity in pulse requires one full minute. While counting, note the force and rhythm.
2. Record count; note irregularity p.r.n.

APICAL-RADIAL PULSE MEASUREMENT

This procedure is ordered by a medical officer for an individual patient who has a questionable radial pulse rate due to a heart or circulatory disorder. A stethoscope is used for counting the apical pulse. In this procedure, there is simultaneous counting by two people of the apical pulse of the heart and the radial pulse. The difference between the apical and the radial pulse, when counted simultaneously, is called pulse deficit. When the count is ordered for a female patient, the patient is screened and female specialists do the procedure.

Procedure

1. Explain procedure to reassure the patient.
2. Uncover the left anterior chest area. Locate the apical beat, below the left nipple (5th intercostal space). Listen for clear heart sounds through the stethoscope.
3. Tell assistant to locate radial pulse.
4. Begin simultaneous count on signal "start." Count for one full minute. (The apical count will be the same or higher than the radial count.)
5. Repeat procedure to recheck if necessary.
6. Record apical and radial count immediately on worksheet. Report any unusual observation, stat.
7. Readjust patient's clothing and bed covers.
8. Record in DD Form 640 (Nursing Notes).

TAKING RESPIRATION

After counting the pulse and while the fingers are still on the wrist, take the respiration count. (If the patient thinks his pulse is still being counted, he has less tendency to control breathing consciously.)

1. Watch rise and fall of the chest or upper abdomen. Count each rise, and continue to watch and count for one minute.
2. Note the depth, rhythm, and ease of each respiration in addition to the number per minute. Report any unusual observations immediately.

5-45. Blood Pressure Measurements

Blood pressure is measured by means of a sphygmomanometer (an air-pressure device) and a stethoscope (a listening device). The cuff of the manometer contains a rubber bladder. When this cuff is wrapped around the upper arm and inflated with air, the air pressure registers on the manometer gage, which is calibrated in millimeters of mercury. Taking a blood pressure requires much practice—the individual must apply the cuff properly, manipulate the air bulb, and simultaneously listen through the stethoscope and watch the gage. Any talking or other distraction while doing this decreases the chances of an accurate measurement.

EQUIPMENT

Stethoscope
Sphygmomanometer
Container of 2- x 2-inch gauze in 70-percent alcohol
Worksheet and pencil

PROCEDURE

1. Check manometer. The cuff must be completely deflated and the gage must register zero before starting.
2. With an alcohol sponge, wipe the bell (or diaphragm) and ear pieces of the stethoscope firmly.
3. Place the patient in a relaxed and comfortable position, in bed or seated next to a table. Support the arm to be used at the level of the patient's heart.
4. Expose the patient's upper arm. Remove garment if sleeve is tight.
5. Place the wide portion of the cuff against the inner surface of the upper arm; wrap cuff firmly and smoothly, tucking in narrow end to secure it. (A snap-fastened cuff or a self-adherent (velcran closure) cuff may be available.)
6. Clip gage of aneroid-type manometer to cuff.
7. Place mercury manometer on firm, level, adjacent surface, outside patient's field of vision.

8. Locate pulse of brachial artery by feeling in the bend of the elbow with the fingertips. Place the bell or diaphragm of the stethoscope over the pulse point. (Be sure the earpieces face forward when placing in ears.)
9. Tighten thumbscrew of air bulb with one hand while holding stethoscope in place with the other. Inflate cuff by pumping bulb. Listen. Look. Inflate cuff about 20 mm. above where pulse sounds were last heard. It is at this point that the air pressure has caused the artery wall to collapse.
10. Loosen thumbscrew of the bulb and allow the air to escape slowly. At the same time, watch the gage. When the first distinct sound is heard, note the number on the gage; this is the systolic pressure.
11. Continue to release the air slowly. Look. Listen. Note the number on the gage at which the last distinct sound is heard. This is the diastolic pressure.

CAUTION

In some patients, sounds may be heard to extremely low levels—all the way to the bottom of the gage. In such patients, note the levels on the gage at which the sound changes from a distinct tone to a dull, muffled beat. The diastolic pressure is recorded at the level at which the sound changes.

12. Open the valve completely, releasing all air. If any doubt exists as to the reading, repeat step 9 through this step to recheck. If doubt still exists, request another competent person to recheck the BP. Never hesitate to request this recheck.
13. Record reading on worksheet.
14. Remove cuff from patient's arm. Roll cuff from narrow to wide portion before placing in case. Before closing the case, be sure tubing is not pinched or kinked.
15. Rearrange patient's clothing.
16. Wipe earpieces, including the lumen, and bell (or diaphragm) of stethoscope with an alcohol sponge before returning equipment to storage area. (This area may be the thermometer cart.)

5–46. Assisting With the Admission Physical Examination

General. A physical examination is done by the medical officer on the day or evening of the patient's admission to the hospital. The enlisted specialist assisting with this procedure aids the medical officer and also obtains firsthand information concerning the patient's condition, which may be used in planning necessary nursing care. The examination may be conducted at the patient's bedside or in the ward treatment room. When a female patient is being examined, a female nursing assistant is expected to be present in the room at all times. If a male is being examined, a female assistant leaves the room during the examination of his genitalia.

b. Methods Used in Physical Examination. The following terms describe general methods of examining patients:

(1) *Inspection.* Visible observation of the patient's expression, skin condition, gait, body structure, presence of scars, or swellings. Internal surfaces of body openings are observed through instruments such as a speculum or a scope.

(2) *Palpation.* The use of touch and feeling. Changes in normal contours and detection of masses and enlarged organs not obvious by inspection are noted.

(3) *Auscultation.* Listening for sounds that indicate changes from normal. Areas of sound production in the body include the heart, blood vessels, lungs, gastrointestinal tract, and joints. The doctor may use his ear or his ear with the aid of the stethoscope.

(4) *Percussion.* Tapping on body surfaces. This combines auscultation and palpation; differentiation of hollow or air-containing structures from solid or fluid-containing structures is made through percussion. A percussion hammer is used to test neurologic reflexes.

(5) *Measurements.* Height, weight, size of organs and body dimensions, temperature, pulse, respiration, and blood pressure are measurements included in a physical examination.

EQUIPMENT

Examination tray, containing—
- Stethoscope
- Ophthalmoscope-otoscope set
- Flashlight
- Tongue depressors
- Percussion hammer
- Tape measure
- Skin pencil
- Rubber gloves
- Lubricant

Emesis basin
Paper bag
Floor lamp
Basin stand for handwashing (unless sink is available)
Paper tissues
Paper towels
Sheet
Hand towel
Scale
Additional articles such as nasal speculum, vaginal speculum, and anoscope p.r.n.

PROCEDURE

1. Tell patient what is to be done and how he may help. Have him void.
2. Escort him to the examining room, or screen him if he is to be examined in the general ward area. Reassure him with simple explanations of any equipment to be used.
3. Take and record weight and height if this has not been done on admission.
4. Place patient in the position requested by the medical officer—seated or lying flat. Cover patient with a sheet if lying down.
5. Expose various parts of the body as the examination progresses, draping with the sheet and towel to avoid unnecessary exposure of the breast or pubic area. The usual order is chest, abdomen, extremities, genitalia, and rectum.

NOTE

> Remember to hand patient tissues and remind him to turn his head away from the doctor when he is requested to cough during the chest examination.

6. Assist patient to dress and make him comfortable after the examination.
7. Tell patient the doctor will discuss and explain any findings of the examination.
8. Clean and reset examination tray.

VAGINAL (PELVIC) EXAMINATION

A calm, matter-of-fact attitude will reassure the patient and help her relax.

EQUIPMENT

Vaginal speculae, different sizes
Lubricant
Clean gloves
Basin of detergent solution
Stool (for doctor to sit on)

PROCEDURE

1. Position the patient in dorsal recumbent or lithotomy (feet in stirrups).

NOTE

> In lithotomy position, the buttocks must be even with the break in the table.

Drape her with a sheet while assisting her into position. Use the sheet as a diamond (fig. 5-32), one corner over chest, one corner wrapped around and tucked under each leg, and the fourth corner over pubic area, to be folded back when the medical officer is ready to do the examination.

2. Adjust the light. Adjust the drape.
3. Have lubricant ready to apply to the speculum and to the medical officer's gloved fingers.
4. Stand by the patient's side while the examination is done instead of attempting to look over the doctor's shoulder.
5. After examination, assist the patient to wipe off lubricant with tissues. Help her into a comfortable position and to arrange her clothing.

5-47. Intake and Output Observations and Recordings

a. Importance of Observations. Observations concerning a patient's intake and output provide

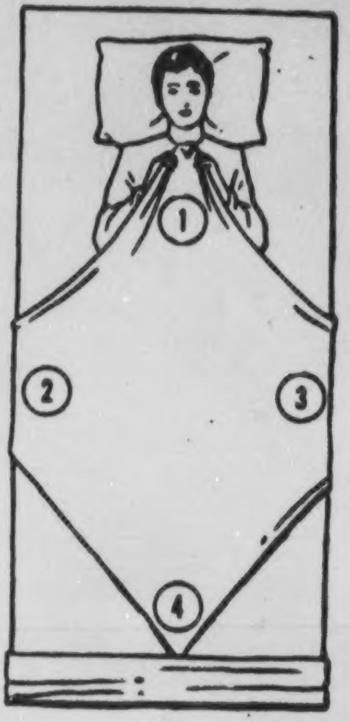

Figure 5-32. Drape sheet, female pelvic examination.

the medical officer with essential information concerning the patient's fluid balance. This informa[illegible] is considered a vital sign; for many patients it may be a more important clue to progress than TPR and BP, the vital signs more commonly and routinely observed, measured, and recorded. The medical specialist often assists in keeping an intake and output record when one is ordered for specific patients. However, whether or not a specific order is written, the medical specialist should be aware of observations to be made on a 24-hour basis as a part of overall nursing responsibility in patient care. He should be able to supply answers to the following questions that may be asked by the medical officer or by the nursing team leader:

(1) Has the patient eaten the food and fluids provided on his diet tray? If he has not, how long has he failed to do so?

(2) Has the patient drunk water provided at his bedside? If not, how long has he failed to do so? Has fresh water been provided at regular intervals for all patients permitted oral intake?

(3) Does the patient increase his oral intake of food and water when assistance and encouragement are provided by nursing personnel?

(4) Has the patient urinated during the med[illegible] specialist's 8-hour tour of duty? (The average healthy adult voids between 100 to 300 ml. five or more times during waking hours, for a total of 1000 to 1500 ml. of urine in 24 hours. Urine volume is dependent upon many factors, with the amount of fluid intake a major one: a large intake usually results in a large urinary output, a small intake in a small output.)

b. Indications for Intake and Output Recording. The medical specialist should anticipate that the medical officer will want intake and output measurement and recording (1) for any patient unable to take adequate oral food and fluid for any reason and (2) for any patient with abnormal fluid losses; *for example*, diarrhea, vomiting, fever, or excessive perspiration. When in doubt whether to start recording intake and output without an order, start recording as an automatic nursing measure that contributes to the patient's welfare. If the medical officer indicates that an I & O record is not required, the patient will have benefitted from having nursing personnel aware of important basic needs.

c. Intake and Output Records.

(1) *DD Form 792 (Nursing Service—Twenty-Four Hour Patient Intake and Output Worksheet (I & O Worksheet)).* This form is kept at the patient's bedside. It provides spaces in which to record the time, the type, the description, and the amount (in ml.) of fluid intake and output.

(*a*) *Intake.* Intake consists of all liquid taken into the body of the patient. Intake may be oral, intravenous, or rectal, or it may be by hypodermoclysis or gavage. Fluid obtained by any of these means must be taken into account, measured as accurately as possible, and recorded.

(*b*) *Output.* Output consists of all liquid released by the body of the patient. Output is by means of voiding, vomiting, drainage, catheterization, perspiration, and defecation. Urine must be measured each time the patient urinates or is catheterized, drainage and vomitus must be measured as accurately as possible, and a notation must be made of amount of feces and whether soft or hard.

(2) *Transcribing entries from the I & O Worksheet.* Entries on the I & O worksheet are the responsibility of the individual to whom the patient is assigned for nursing care. It is customary for the night nurse to total the entries on the worksheet and transcribe the totals to the patient's clinical record. The worksheet is usually picked up from the bedside at 2400 hours, and a new form is started for the next 24 hours. After the totals are transcribed to either SF 511 or to DD Form 640, the worksheet may be destroyed or it may be kept temporarily in the nurses' station for reference.

d. Suggestions for Achieving Accurate I & O Records. Entries concerning intake and output are often the first nursing notations reviewed by the medical officer and, unfortunately, he may often have reason to complain that the information is incomplete or questionable. Persistent effort, constant supervision, and continuous attention of all nursing team members must be directed to making this record accurate and therefore usable. Personnel should accomplish the following:

(1) Attach a "Measure Intake-Output" sign to the head of the patient's bed or as determined by local policy.

(2) Keep the bedside worksheet in a prominent place at the bedside as local policy dictates, preferably on a clip board with attached pencil or ballpoint pen.

(3) List all patients requiring I & O, and post this list in appropriate work areas—for example, post a list in the Kardex and post a second list for

"Output" directly above the bedpan-urinal washer in the utility room. Remind personnel to check the list at frequent and regular intervals and to keep the list up to date.

(4) Instruct the patient so that he will know what is expected of him.

(*a*) *Intake*. Tell him what restrictions or what requirements for increasing intake have been ordered. Whenever possible, space the intake hourly, making allowance for evening and night ingestion of fluids. Ask him what he drank when checking bedside containers or meal trays—do not assume because the container is empty that he was the one who drank the contents.

(*b*) *Output*. Request the ambulatory patient to use a urinal or bedpan and to notify nursing personnel so that contents can be measured and recorded.

(*c*) *Record keeping*. If the patient is permitted to keep his own record, check the entries made.

(5) Use calibrated measuring equipment for measuring output when it is available—do not guess. When a wide-mouthed glass or plastic graduate is not available, use a calibrated, 1000-mm., empty IV bottle, with an improvised paper funnel, for measuring urine. A gallon-size drainage bottle can be marked with an adhesive strip to indicate the 50 or 100 ml. level.

(6) Know the amounts customarily contained in drinking utensils. A cup or glass may have a capacity that differs from the usual serving level, and everyone using the utensil should be in agreement. Intake equivalents for serving levels in china and glass hospital utensils are listed on the I & O worksheet. (Plastic utensils in field equipment have different capacities; *for example*, the plastic cup and the tumbler have a 10-ounce (300 ml.) capacity; a metal canteen cup has approximately 500 ml. capacity.)

(7) Use agreed-upon descriptive terms in reporting and recording output that must be estimated. Thus, for a patient who is perspiring profusely or who is incontinent of urine, the output may be recorded in terms of the dampness of his bed clothing—"bed clothing damp," or "bed clothing saturated."

(8) Record all measurements, estimates, and observations at the time they are made. Do not wait; you could forget to make the entry.

(9) When assisting with intravenous fluids, gavage feedings, tube or catheter irrigations, emptying and measuring drainage bottles, know exactly what entries are to be made. (Follow instructions of the doctor or nurse.)

Section VI. THERAPEUTIC PROCEDURES—GENERAL

5–48. Sterile Technique and the Use of Sterile Supplies

a. General. Sterile technique is a method of handling sterile materials so as to maintain their sterility. The purpose of sterile technique is to prevent contamination and thus to promote asepsis, freedom from infection. Sterile technique is indicated in any procedure involving contact with an open wound, puncturing of skin or mucous membrane, or entrance into a normally sterile body cavity. The terms "sterile technique" and "surgical aseptic technique" are often used interchangeably. However, surgical aseptic technique is commonly accepted as including all of the steps performed in the sterilization of articles as well as the measures used to prevent contamination of sterile materials. (For detailed information on sterilization, including methods and equipment, refer to TM 8–275. For detailed information on surgical aseptic technique with specific reference to operating room procedures, refer to TM 8–220.) In the rigidly controlled environment of the operating room sterile technique can be practiced in its most exacting sense, but the principles of asepsis on which sterile technique is based also have practical application in ward and clinic areas. Familiarity with certain basic principles is essential for any procedure requiring the use of sterile materials. Three key principles are—

- An article is either sterile or unsterile. If there is any doubt about its sterility, consider the article unsterile.
- Contact with an unsterile surface contaminates a sterile object.
- Air currents are capable of carrying contaminants.

b. Basic Steps in Sterile Technique.

(1) Set up for, assist with, and perform sterile procedures in as clean an environment as possible. Contribute to favorable environmental aspects by practicing good personal hygiene habits

and observing established procedures in all hospital housekeeping duties, particularly in discarding [illegible]ste and in maintaining a dust-free work area.

(2) Wash hands thoroughly before beginning any sterile procedure in order to rinse off surface bacteria and to make hands as clean as possible. (Paragraph 6-33 covers surgical hand scrub and gloving procedure.)

(3) Use only sterile supplies. Supplies must have been sterilized by the best available method, stored, and handled properly to avoid contamination.

(4) Keep equipment sterile during preparation for and while performing the procedure. Maintain sterility of articles in use by handling them with sterile instruments or sterile gloves, and by exposing them to room air for the least possible time.

(5) Discard any object which becomes contaminated. A sterile object that touches anything not sterile is considered contaminated.

c. Routine Ward and Clinic Activities Involving Application of Principles of Sterile Technique. The medical specialist must demonstrate his understanding of basic principles of sterile tech[illegible]ue by adhering to these principles every time he performs, or assists with the performance of, any of the following routine ward activities:

- Using sterile transfer forceps.
- Opening a sterile package.
- Removing sterile articles from a sterile container.
- Pouring a sterile solution.
- Storing sterile supplies.
- Setting up a sterile field.

d. Use of Sterile Transfer (Pickup) Forceps.

(1) While in use, allow sterile portion to touch only sterile articles.

(2) When not in use, keep transfer forceps in a forceps jar which is filled with a prescribed germicide solution to above the hinge of the forceps and within 1 inch of the top of the container. The part of the inner surface of the container and the part of the forceps immersed below the level of the solution are sterile. The container surface above the solution, the rim, and the forceps above the solution are not sterile.

(3) Remove transfer forceps from and replace in the container in a straight line (fig. 5-33) so that a sterile surface never touches an unsterile surface. Replace forceps in container with hinge unclamped to permit solution to cover entire hinge area.

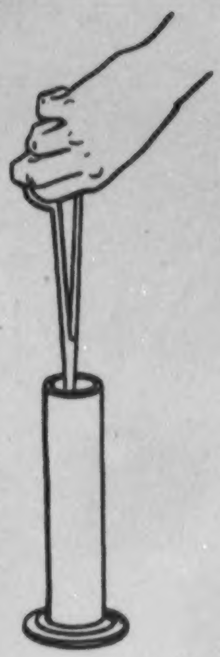

Figure 5-33. Removing transfer forceps from container.

(4) During use, keep forceps tips pointed downward, above working level. If forceps are held with tips upward, the solution will run over the unsterile part, and then when the forceps are reversed the contaminated solution will run back, contaminating the sterile portion.

(5) Replace container and forceps daily with sterile ones obtained from CMS. If contaminated in use, replace them at once.

NOTE

The germicide solution is intended to preserve sterility; the articles themselves must be sterilized by autoclave.

e. Handling Sterile Supplies.

(1) *Sterile packages.* The inside of the wrapper and the contents of package are sterile; the outside is unsterile. When opening the package, touch only the outside surface. Hold the wrapped package away from the body or stand away from it to avoid body contact. Follow printed instructions on commercially prepared sterile items; if item is processed in a "peel-down flap" package, manipulate the flap according to the manufacturer's illustration. Follow steps illustrated in figure

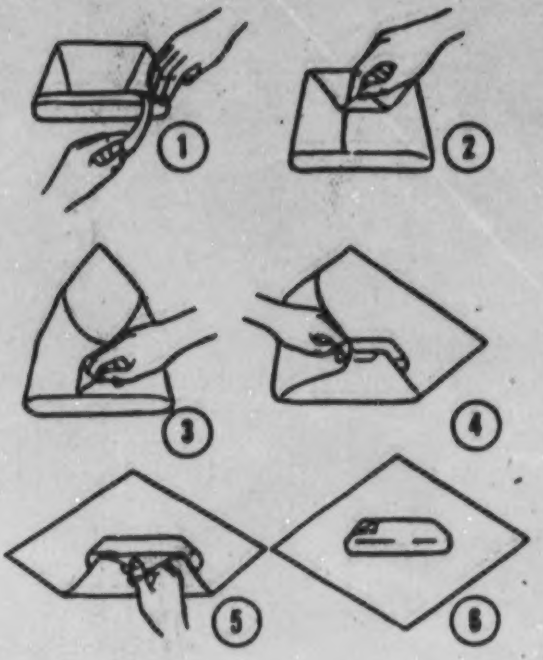

Figure 5-34. Technique for opening a sterile package.

5-34 for opening wrapped packages as they are usually prepared in a hospital CMS.

(*a*) Place large wrapped items on a dry flat surface; hold small items on the palm of one hand.

(*b*) Place unopened package so that the tip of the top flap is toward the body. Remove string or tape.

NOTE

Heat-sensitive tape used at the external opening of packaged material will show distinctive diagonal stripes following exposure to a heat-sterilization process.

(*c*) Open wrapper by pinching up top surface of each flap in sequence. Avoid reaching across inside of wrapper; change hands as necessary. The last flap opened is the one toward the body.

(*d*) To hand contents of a small package to a gloved individual, grasp loose ends of the wrapper and hold the package above waist level, away from the body (fig. 5-35).

(2) *Removing sterile articles from sterile container.*

(*a*) Lift lid or cap straight up. Hold lid with inner surface down; if lid must be rested momentarily on a work surface, place lid with inner surface up. Remove the lid only when necessary, and replace it as soon as possible.

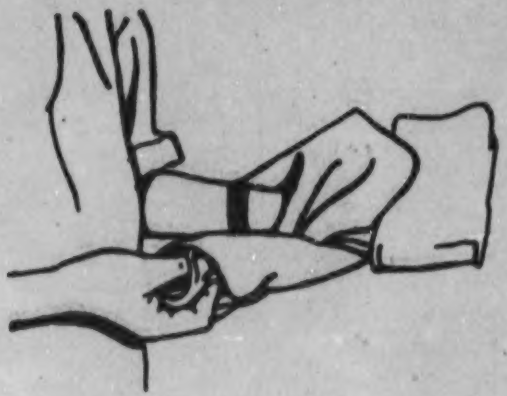

Figure 5-35. Handling sterile articles.

(*b*) Use transfer forceps to remove contents from container.

(*c*) Remove articles from container by lifting straight up and out. Do not touch rim of container with transfer forceps or with contents removed from the container.

NOTE

Individually packaged articles are used in preference to canister or other container storage of sterile items because each time a container is opened, the contents are exposed to possible contamination.

Never return an article to a sterile container once it has been removed. When the container is accidentally contaminated, remove the container at once. If removal is not possible, invert the cover on the container to indicate that it has been contaminated and must be resterilized before it can be used.

(3) *Sterile solution flasks.* A flask containing a sterile solution for external use which is prepared in CMS is vacuum-sealed with a cap which completely covers the pouring lip. Once the cap seal is broken by loosening or removing it, sterility of the contents is no longer assured. Always check the cap for an intact seal before use. If the cap is a flexible, disposable type, look for a distinct depression in the dome. If the cap is a rigid, plastic, reusable type, test the seal in this fashion: pick up the flask by the neck and with the free hand, strike the top of the cap with the heel of the hand; if the seal is intact there will be a distinctive click sound. To pour solution—

(*a*) Remove cap by lifting it straight up.

(*b*) Hold the flask just high enough above receptacle to avoid touching and to prevent splashing.

(*c*) Do not return an opened and subsequently recapped flask to a sterile supply storage area. It may be retained for use at the bedside of the patient unless otherwise directed.

f. Storing Sterile Supplies. Sterile supplies wrapped in a double thickness muslin wrapper, paper or cellophane tubing stored in a dry clean, vermin- and insect-free area are considered to have a "shelf storage life" of at least 30 days from the date of processing (sterilization). Sterile supplies placed in a plastic cover after sterilization but not hermetically sealed are considered sterile for 30 days. Infrequently used sterile supplies which are hermetically sealed in plastic covers after sterilization are considered sterile for 6 months from date of processing (sterilization).

(1) Store sterile supplies on dry, clean, dust free shelves above floor level. When possible, use a closed cabinet for storage in preference to open shelves.

(2) Check dates stamped on supplies (which would be the date the package is no longer considered sterile) and rotate on the shelf to use older dates first. Return outdated materials to CMS for reprocessing.

(3) Do not use packaged materials if there is any apparent damage to the wrapper, any moisture stains, or any broken seals. Commercially prepared sterile materials usually state on the package label words to this effect—"Sterility guaranteed unless package is opened, damaged, or wet."

g. Setting up a Sterile Field. The sterile field is the dry, sterile surface area on which sterile articles may be placed for convenience in use during a sterile treatment procedure. In a ward or dispensary treatment area, a practical and safe way to set up a sterile field is as follows:

- Plan to use only the interior surface of the outer wrapper of a sterile package or preassembled, wrapped sterile tray. These items are wrapped and processed to allow this use, providing that they are opened properly (fig. 5-34).
- Place the wrapped item on a clean dry, flat surface at the place of use. It is hazardous to open the package in a separate preparation area and then to attempt to re-cover or close the wrapper for transportation to the place of use.
- Open the outer wrapper, as directed, just before use to reduce exposure and possible contamination factors.
- Handle interior contents with sterile transfer forceps or sterile gloved hands. If the user will have to pick up an instrument from the sterile field with his ungloved hand, make it possible for him to do so by using this accepted technique: Consider an approximately 1½-inch border at the outer margin of the sterile field as a boundary area. With the transfer forceps, pick up the required instrument and place the handle within this border. Once touched by the ungloved hand of the user, the instrument may not be replaced within the sterile field.
- Never place moist items on any fabric portion of the sterile field as moisture carries microorganisms from the unsterile undersurface to the sterile upper surface. If a germicide-moistened item must be used, drop this item into a solution cup or glass on the tray. Avoid splashing solution when pouring it into any container.
- Do not reach over the sterile field when placing additional items on it. Move around the table on which the sterile field has been set up, and drop the article onto the surface, avoiding any contact.

5–49. Use of the Surgical Dressing Cart (fig. 5-36)

The traditional dressing cart, once kept ready and available for use as a mobile supply station for surgical dressing materials, is now seen less frequently on hospital wards. In many instances the need for its use has been eliminated. Current emphasis in dressing technique is directed to changing the dressing according to need rather than on routine dressing rounds, and individual packaging of sterile supplies is preferred to use of stock supplies from a common-use container or canister. When a dressing cart is used to meet the needs of a treatment unit, principles of asepsis must be followed. Properly used, the cart can be a convenience in transporting materials from a central ward storage area; improperly used, the cart and its contents become contaminated and therefore a means of spreading infection.

Precautions in Use of The Dressing Cart

- Never place soiled instruments, utensils, dressings, wrappers, linen, or waste materials of any kind on the cart.

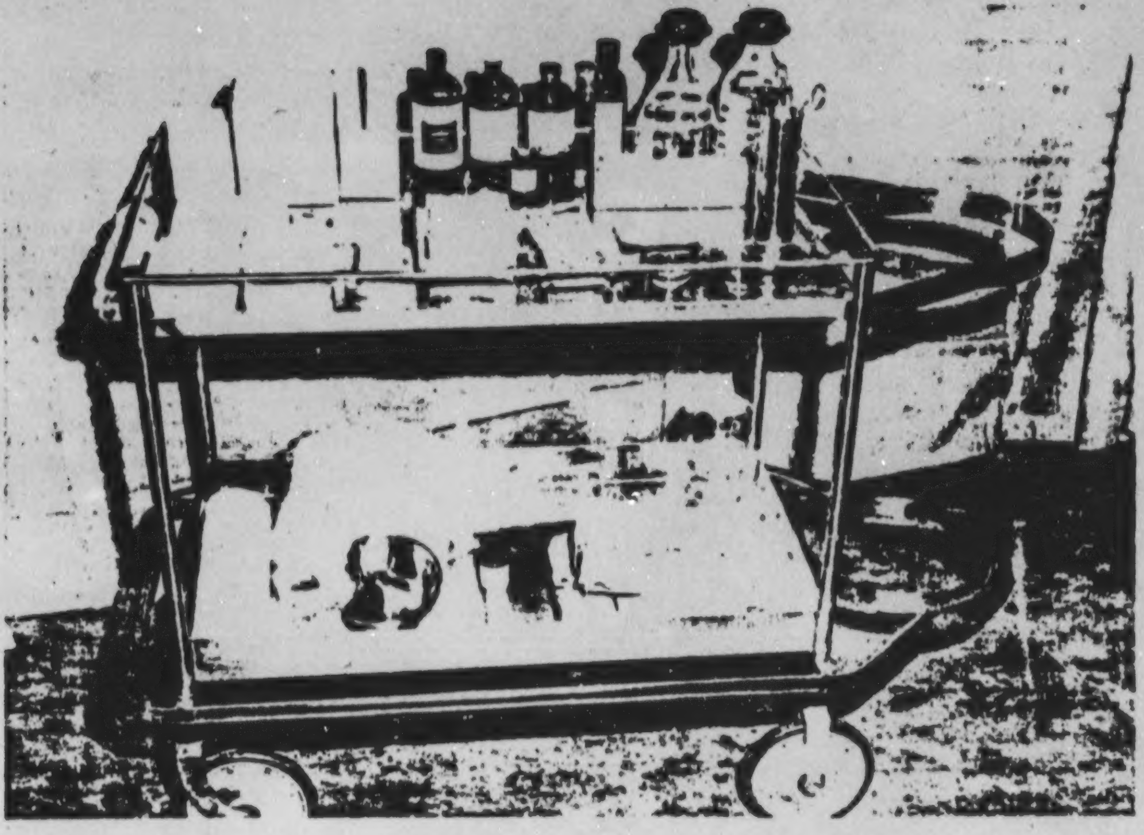

Figure 5-36. Surgical dressing cart.

- Do NOT place receptacles (basin, bucket, or bags) in the ring supports at the end of the cart. This practice was once accepted as a convenience for collecting used materials in a clean-up procedure after applying a dressing but it is now universally recognized as a violation of aseptic principles.
- Never place the cart in proximity to the bed unit of a patient with an infected wound, or allow the cart to come in contact with any bed unit.
- Do not use the cart as a catch-all for miscellaneous items. When used, stock it in accordance with a supply list, placing specific items in designated locations. *For example,* place packaged sterile supplies on the top shelf and on one section of the lower shelf; place clean supplies in a separate section of the lower shelf.
- Do not place excessive quantities of any item on the cart. For safety, unused items once they have been taken into a direct patient care area should not be returned to a clean storage area for subsequent use.

5-50. Dry, Sterile, Wound Dressing

A dry, sterile, wound dressing (DSD) applied to a wound at the time of initial surgical treatment should not be disturbed or removed except as directed by a medical officer. Nursing personnel are responsible for observing and reporting the condition of the dressing, and should note particularly any evidence of displacement and the character and amount of visible drainage. Reinforcement by placement of additional tape or supporting bandage is usually permissible; however, if the dressing has been displaced from the wound itself, it should never be adjusted by sliding it back in place—this would contaminate the wound. If there is evidence of displacement, permission must be obtained to remove the displaced portion and to apply a fresh, sterile dressing. It is customary for the medical officer to do all initial dressing changes himself: he may then decide to discontinue the dressing, or he may delegate responsibility for subsequent dressing changes to a qualified assistant. If you, the medical specialist, are assigned this responsibility, you must observe the following precautions under all conditions:

- Know the nature of the wound and the kind and amount of dressing materials required for its protection and treatment. This information is best obtained first-hand, while assisting the medical officer and observing under his direction the condition of the wound and the manner in which it must be handled.
- Use aseptic technique (paras 5–48 and 5–49).
- Avoid any damage to body tissues. Know exactly what part of the wound may be touched and in what manner. Be gentle and cautious in removing and replacing dressing materials to avoid pain and damage to healing tender tissue.

DRESSING PROCEDURE

Unless otherwise directed, use the procedures outlined below as a guide in changing and applying wound dressing. Plan to dress first a wound or wounds designated by the medical officer as "clean" before dressing wounds designated by the medical officer as "infected" or as "dirty"; this measure helps reduce the concentration of known airborne contaminants to which a clean wound is exposed during the dressing change. Follow local instructions for wearing a mask when dressing wounds; whether masks are worn or not, always remember to restrict all unnecessary talking and traffic in and around the area in which wounds are being dressed.

Preparation

1. Wash hands.
2. Assemble dressing materials. Items required will vary, depending upon the medical officer's instructions and the supplies available. When several items will be needed, avoid last minute delay and inconvenience by making a list, assembling all items on a tray or mobile table, and then taking the tray or table to the location of use. Basic equipment for applying a DSD to a surgical wound will usually include the following items:

Dressing set, individually wrapped
Gauze dressings, individually wrapped
Skin antiseptic, as prescribed*
Transfer forceps
Bandage scissors
Adhesive tape
Emesis basin
Paper bag, paper towels, or newspaper
Gloves, plastic, disposable
Tray, instrument

3. Prepare the patient and the unit. Tell the patient what is to be done. Clear the bedside stand to provide a work area. Screen the bed if on an open ward. Place the patient in a comfortable position that will also permit complete exposure of the area to be dressed; adjust pajamas and bed clothing to expose the dressing. If the patient is ambulatory and the dressing is to be done in the ward treatment room, help the patient into the required position, using the examining table or seating him in a chair; assist him to adjust his clothing to expose area to be dressed.
4. Wash hands.
5. Take dressing items, assembled on the clean tray, to prepared dressing area. Place tray on table, convenient to use.

Procedure When Removing and Reapplying Dressing

1. Place emesis basin and paper for waste at foot of bed or otherwise away from sterile work area.
2. With bandage scissors, cut required strips of adhesive and stick one end of each strip at table edge, handy for use.

NOTE

Use bandage scissors only for clean materials. If used to cut off bandages on a patient they are then contaminated and must be sterilized before reuse.

3. If stock bottle of solution is to be used, loosen cap but do not remove; this preliminary step will permit manipulating the solution container with one hand during actual use.
4. Open sterile wrappings, using transfer forceps p.r.n. to arrange materials convenient for use. Do not contaminate any sterile article; if accidental contamination occurs at any time, discard and replace the contaminated item. Use inside of sterile dressing-set wrapper for a sterile field—the minimum size of this double-muslin, or moisture impervious paper wrapper, is 12 inches square and will usually be adequate in size. Move instruments to be picked up by ungloved hand so that handles lie at edge of the 1½-inch boundary of the sterile field.
5. When all is in readiness to proceed with the dressing, remove outer dressing:

- Use plastic disposable gloves, when available, to protect clean hands while handling soiled outer dressing. If bare hands must be used, cleanse

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[illegible]ed foil-wrapped germicide wipes; if these are not available, use stock bottle of prescribed solution and sterile 2-inch by 2-inch gauze or sterile cotton-tipped applicators.

hands immediately afterward by washing or by thorough friction-wiping with germicide-moistened gauze or commercially prepared wipe.

- Discard outer dressing and plastic gloves, when used, in paper bag or on newspaper.
- In removing adhesive tape avoid all tension on wound edges by loosening ends while holding skin taut, then pull each end toward the wound. Remove tape marks from patient by using acetone or ether.

6. Using sterile hemostat or thumb forceps, remove inner dressing. Note amount and character of drainage, if any. Discard dressing on paper; discard forceps in basin.

- To loosen a stuck dressing, moisten the dressing with a small amount of the sterile solution ordered by the medical officer. Use a sterile asepto syringe and solution basin. As the dried secretions become soft, gently lift off the dressing with forceps.

NOTE

There is always danger of introducing microorganisms into the wound when moisture is applied to the surface of the dressing, so when drainage is anticipated, a dry, sterile strip of a special porous but nonadherent material is often placed in contact with the wound surface; this material can be peeled off gently with no damage to underlying tissue.

7. Observe condition of wound and surrounding skin area, noting particularly any swelling, redness, or excessive tenderness.
8. Cleanse wound edges as directed by the medical officer, using moistened gauze, applicator sticks, or foil-wrapped wipes. Work outward from wound margins in cleansing; do not retrace; rotate to clean surface and replace item as it becomes soiled with exudate.

- If foil-wrapped wipes are to be used, open peel-down flaps and remove contents with sterile forceps, grasping contents so that they may be used without further handling.
- If applicator sticks are to be used, hold each over basin while pouring on solution.
- If 2 by 2 gauze squares are to be used, pick each up with forceps, folding edges in to grasping surface of forceps to make a sponge; hold over basin while pouring solution.
- To apply protective ointment or petrolatum gauze to skin edges, do not apply ointment or petrolatum gauze on the wound itself unless specifically ordered, as the greasy base will seal in drainage. After cleansing the wound and skin edges, dry the skin by blotting gently with dry sterile gauze. Use a sterile tongue blade to apply ointment. Use sterile scissors to cut petrolatum gauze to required size.

9. Apply inner dressing, using second forceps. Never drag dressing across skin adjacent to wound but pick up dressing and lay directly on wound. Reinforce inner dressing as required with additional dressings so that dressing extends at least 2 inches beyond wound edges on all sides. If much drainage is anticipated, cover inner dressing with gauze fluffed with forceps, and cover fluffs with ABD pad or other outer protective layer of dressing. The outer moisture-resistant surface of an ABD pad is marked with a stripe or indicated by a darker color filler layer; place the inner absorbent surface next to the inner dressing.
10. Secure dressing in place with adhesive tape or other external wrapping.
11. Wrap discarded dressings securely in paper, touching only outer surface of paper.
12. Make patient comfortable, adjusting clothing and position as necessary.
13. Remove all dressing equipment from bedside table. Discard wrapped dressing in covered container in utility room. NEVER discard soiled dressings in wastebasket, wastepaper bag, or other container in the patient care area. Discard cloth wrappers in laundry hamper. Follow local procedure for handling contaminated instruments and utensils (basins, solution cups, etc.). If items are to be prerinsed, avoid all splashing and contamination of clothing and work area. Place items to be returned to CMS at collection point.
14. Wash hands.
15. Record dressing change in Nursing Notes: time, condition of wound, cleansing solution used, and signature.

5-51. Methods of Holding Dressings in Place

Dressings are held in place by a variety of materials—adhesives, binders, bandages, or combinations of all three. The choice of item depends on the type and purpose of the dressing, the area of the body on which the dressing is placed, and the availability of supplies. Whatever means is used, it must be applied so that:

- The dressing will be held securely in place.
- Underlying tissues will not be damaged.
- The affected part will be protected and supported as necessary.
- The finished dressing will be comfortable and neat.

a. Use of Adhesive. Do not apply adhesive, tape or liquid, to abraded or inflamed skin.

(1) Prepare adhesive tape strips that will be long enough and wide enough to hold the dressing in place. Fasten one end of the tape at far side of dressing, pull snugly over dressing and fasten on near side. If dressing is to be occlusive (completely sealed), apply center strip first, then apply alternate overlapping strips.

(2) When liquid adhesive is used, apply sparingly to clean, dry skin at underlying edges of dressing; then seal dressing edges with firm, outward finger pressure. Any residue of liquid adhesive that oozes out from edge of dressing can be rubbed off, when dry, with the fingertips.

(3) When available, use elastic-woven tape to secure dressings at joints and deeply contoured body areas.

(4) Use tape tie-straps (Montgomery straps) in appropriate areas when dressings must be changed frequently; their use eliminates the need of pulling off tape with attendant skin irritation at each change of dressing. Montgomery straps are suitable for use in chest and abdominal areas to support large, bulky dressings without compression. When compression is needed, binders, bandage, or tape strips are required.

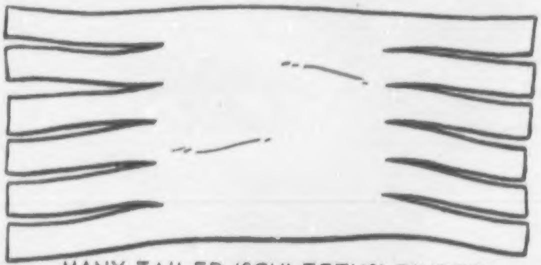
NOTE

Commercially made Montgomery straps may be available through CMS.

- *To make Montgomery straps.* Use 1-inch or 2-inch tape, the width depending on body contours. Cut tape in about 9-inch lengths, to make pairs. Lay each strip, fabric side down, on a flat surface; place an applicator stick on adhesive surface about 2 inches from end and fold tape back over the stick, alining tape edges. With bandage scissors, cut off protruding sticks, leaving short smooth projections on which rubber bands can be looped. If bandage strips are to be used for lacing, cut a small hole about 1 inch from the folded edge.
- *To apply Montgomery straps.* Apply in opposite pairs, using care in their placement if they are to serve their purpose. Select intact, healthy skin for tape anchorage. First, place the nonadhesive portion to overlap the edge of the dressing, then fasten the adhesive portion to the skin, avoiding any wrinkling of skin or tape. Connect pairs with loops of rubber bands or bandage strips laced through the holes; if bandage is used, tie in bows for ease in removal. Remove straps when soiled, selecting alternate skin areas for reapplication of clean tape.

b. Use of Binders. A scultetus (many-tailed) binder is used in abdominal areas; a T-binder or double T-binder for perineal or rectal dressings. When applying any binder, be sure it is smooth and free of wrinkles; secure free ends with safety pins, avoiding placement of pins over bony prominences or any area that may cause pressure. For ease in insertion of pins through cloth, stick the pinpoint first into a cake of soap; then insert at right angles to the pull of the material to maintain tautness. Obtain clean binders from CMS; send soiled binders to the laundry, enclosing them in a laundry net (mesh bag) for ease in handling by laundry personnel.

(1) *Scultetus binder.* Place the patient flat, in supine position. Smooth out wrinkles in the binder with hand pressure, and place under the patient so that it extends from buttocks to flank area. Start at lowest tail, bring over smoothly, and lap opposite tails in succession, slanting each one in a slight diagonal direction from bottom to top. Fasten the last tail with one safety pin, slipping a finger under the binder to avoid sticking the patient. The completed binder should give the patient a sense of firm, comfortable support without constriction, and with no impediment in taking a deep breath. If the binder is uncomfortable, wrinkled, or damp, remove and replace it with a clean, dry one. Unless otherwise directed, remove the binder when giving back care.

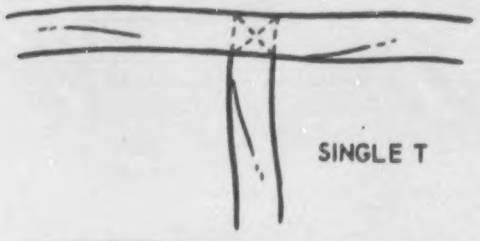


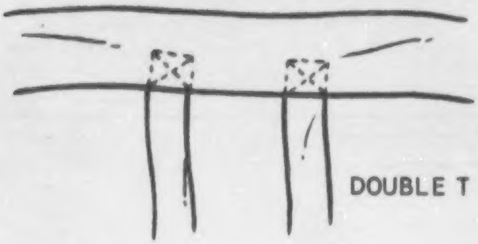
MANY-TAILED (SCULTETUS) BINDERS

Many-tailed (scultetus) binders.

(2) *T-binders.* Use the single T-binder for women, the double T-binder for men. When

applying, have the patient in dorsal recumbent position. First, place and pin snugly the waist band at the front, overlapping any excess material; then bring the free end from back to front, slipping the end under the secured waist band and pinning to hold the dressings securely in place. When adjusting the double T-binder on the male patient, be sure each strip is brought around to either side of the scrotum—check to make sure.





NOTE

The double T-binder may be used for scrotal elevation, as in figure 5-37. When used in this manner, a firmly rolled hand towel or large ABD pad is first placed to elevate and support the scrotum; pressure from the binder is directed against the pad, not the scrotum. Alternative mean of scrotal support is by an adhesive tape device, called a "Bellevue bridge." When a patient has required this type of support as a bed patient, he must usually be supplied with a scrotal suspensory (not illustrated) when he is allowed out of bed and ambulating.

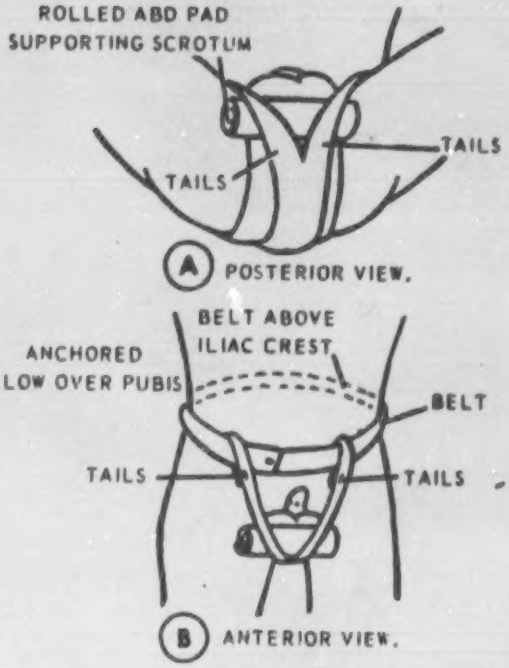
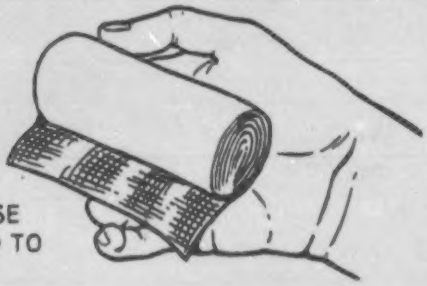


Figure 5-37. Methods of providing scrotal support.

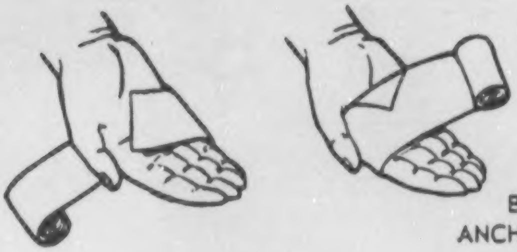
c. Use of Bandage. Roller bandage is commonly used to hold a dressing in place over damaged or tender skin, particularly when a combination of protection, compression, support, and limitation or restriction of movement is required. The properly applied bandage is not so tight that it restricts circulation or so loose that it allows the dressing to slip. The traditional gauze roller bandage is the most time consuming and difficult to apply satisfactorily when a firm, secure, evenly applied compression bandage is required; for economy, use this readily available item for occasions when a relatively loosely applied, temporary bandage is required and reserve for more exacting use the more costly stretchable bandages, such as self-adherent gauze elastic bandage. Select the width suitable for the part to be bandaged: useful widths are 2-inch for hand, fingers and toes; 3-inch for arm, leg, or head; and 4-inch (or 6-inch, when available) for thigh or trunk.

NOTE

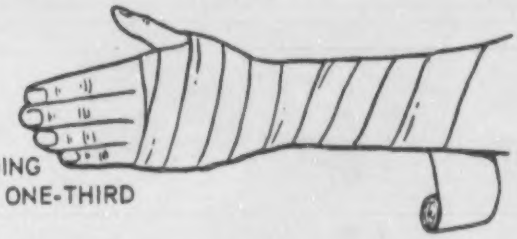
Gauze elastic bandage is a type of disposable bandage for use over wound dressings. Cotton elastic (commonly referred to as Ace bandage) is frequently used for compression and support purposes when an underlying dressing is not required; it is a reusable type of bandage, and with proper care its elasticity is restored when laundered and dried properly. Local policy will prescribe how used bandages are to be cared for; they are often sent to the laundry, to be handled as binders are. If they must be washed on the ward, always dry them flat (rather than hanging them up) to preserve their elasticity; when thoroughly dry, roll the clean bandage in a firm roll, with no stretching.



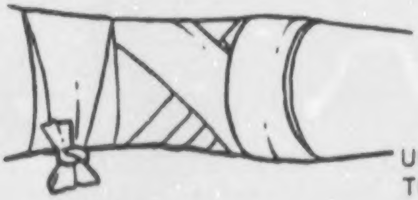
A. STARTING: HOLD ROLLER BANDAGE WITH LOOSE END ON BOTTOM, EXTERNAL SURFACE TO BE APPLIED TO PART.



B. ANCHORING: LAY TIP OF LOOSE END ON PART; ANCHOR WITH A FEW CIRCULAR TURNS.

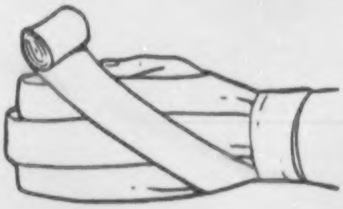


C. SPIRAL: ANCHOR, THEN APPLY SUCCEEDING DIAGONAL TURNS, OVERLAPPING EACH TURN BY ONE-THIRD OF THE BANDAGE.



D. FIGURE-OF-EIGHT. ANCHOR BELOW JOINT; SPIRAL UPWARD FOR CIRCULAR TURN ABOVE JOINT; SPIRAL DOWN TO FORM AN X WITH UPWARD TURN; REPEAT, OVERLAPPING EACH TURN.

E. RECURRENT: ANCHOR DISTAL TO PART TO BE COVERED; THEN FOLD BANDAGE BACK AT RIGHT ANGLE AND CARRY OVER SURFACES, REVERSING RIGHT-ANGLE TURN TO CARRY BACK TO ORIGIN; REPEAT, ALTERNATING TO LEFT AND RIGHT OF CENTER LINE; SECURE RECURRENT TURNS WITH SPIRAL TURNS.



NOTE: PADDING BETWEEN SKIN SURFACES IS NOT ILLUSTRATED.

Figure 5-38. Basic methods of applying roller bandage.

Application of Roller Bandage

Basic methods of applying roller bandage are illustrated in figure 5-38; techniques of bandaging are discussed in FM 21-11. In applying any type of roller bandage, the following general rules should be observed:

- If two parts are being bandaged together, separate skin surfaces with absorbent material to prevent irritation and pressure. Examples of such surfaces are fingers, toes, ear and scalp, arm and trunk, axilla.
- Use the least possible number of circular turns to minimize a tourniquet effect. Circular turns used for anchoring must be only tight enough to keep the bandage from slipping; spiral (diagonal) turns are less constricting.
- Control tension and pressure of the bandage with each successive turn, avoiding any excessive and uneven pressure.
- Use a large number of turns rather than a few too-firmly applied ones. Overlap each turn by about ⅓ the width of the bandage to prevent the skin from being pinched or the bandage from gapping.
- Test for tightness: you should be able to just slip your finger between bandage-turn overlaps without disturbing the bandage; if the bandage is apt to become wet, as when securing a wet dressing, apply more loosely to allow for shrinkage.
- Reapply the bandage if it is unsatisfactory in any way.

5-52. Local Applications of Heat and Cold

a. General. The applications of heat and cold discussed in this section are limited to those commonly administered by nursing personnel in the ward or clinic area. (Many other methods of applying heat or cold are administered by physical therapy personnel.) The form of application, the temperature at which it is applied, and the duration and frequency of the treatment are prescribed by the doctor. It is a nursing responsibility to apply the prescribed form of heat and cold so that the treatment is beneficial, rather than injurious to the patient. Since many of these treatments may be self-care measures for patients, nursing personnel also have a special obligation to instruct patients on the hazards as well as the benefits of hot and cold applications.

(1) There is always a problem when the treatment is ordered by descriptive adjective, since the questions of "how hot is hot?" and "how cold is cold?" must be answered. The range of temperature from cold to hot, in relation to therapeutic applications, falls within these limits: cold, 65 to 90 degrees; tepid (cool to lukewarm), 90 to 100 degrees; warm, 100 to 105 degrees; hot, 105 to 120 degrees. Added to the temperature in degrees is the moisture factor—moist heat and cold are both more penetrating and more intense in their effect on body tissue.

(2) The only sure way to test temperature is with a solution (bath) thermometer (fig. 5-39) or with a cooling or heating device which has a thermoregulator calibrated in degrees, such as the hot-cold circulating pad.

(3) The time-honored method of estimating safe limits of heat by testing against the inner surface of the forearm can be justified only when this estimation is backed up with experience and judgment. Nursing personnel must always remember that what might feel comfortably warm on normal, healthy skin could be dangerously hot if applied to the skin of infants, old people, or individuals with impaired circulation, as in peripheral-vascular disease. Use every opportunity to develop experience and judgment by first feeling and then comparing with available testing devices; there is usually a tendency to underestimate actual degrees of warmth and hotness.

b. Use of Heat and Cold. Reasons for applying heat and cold are summarized as follows:

(1) *Heat.* Since externally applied heat tends to dilate peripheral blood vessels, heat is used to increase the supply of blood to an area. Heat therefore is prescribed to relieve pain due to muscle spasm, to relieve inflammation, to promote localization of purulent material and its drainage, and to relieve chilling.

(2) *Cold.* Since externally applied cold tends to constrict peripheral blood vessels, cold is used for temporary decrease of blood supply to a local area. Cold therefore is prescribed to prevent and relieve swelling (if applied immediately after injury), to reduce the pain of inflammation, to provide temporary local anesthesia by reducing sensitivity of nerve endings in the skin, and to reduce body temperature.

5-53. Local Applications of Heat

Heat is commonly used as local dry applications, for example: hot water bottle, chemical heating pad, thermoregulated electric pad, standard floor lamp with light bulb, and heat cradle; local moist applications such as compresses, arm or foot soaks, sitz baths, irrigations, and hot vapor inhalations.

Table 5-2. General Precautions in Application of any Form of Heat

DO—	DO NOT—
Check the doctor's order.	
Know the patient's condition and the purpose for which the heat application is intended.	Do not leave a helpless or confused person alone while undergoing treatment with a hot application.
Verify the temperature of the application with the most reliable testing device available.	
Place a layer of dry cotton cloth between the patient's skin and a rubber-covered (or plastic) heating device.	Do not put a rubber or plastic-covered heating device directly on a patient's skin.
Observe the local skin area before, during, and after the heat application.	Do not rely on the patient to complain of pain. Repeated applications bring increased tolerance to the sensation of heat, and a burn can occur without the patient complaining of pain.
When continuous moist heat is ordered, remove for 1 hour every 12 hours or more often to prevent maceration of skin.	
Discontinue application immediately when a local reaction of skin redness appears.	Do not reapply heat to an area in which heat-induced redness persists.
Prevent chilling and exposure following heat application.	

NOTE

For general precautions when applying heat, see table 5-2. Record in Nursing Notes the type of application, time, area to which applied, and patient's reaction.

HOT WATER BOTTLE

1. Fill a pitcher with hot water. Test temperature with a bath thermometer. The temperature should be no more than 120 degrees.
2. Pour water into bottle to fill to one-half. Expel air by gradually resting the bottle flat on a table until the water reaches the neck of the bottle. Expelling the air makes the bottle pliable so that it will conform to body contours.
3. Secure the stopperless closure by folding over

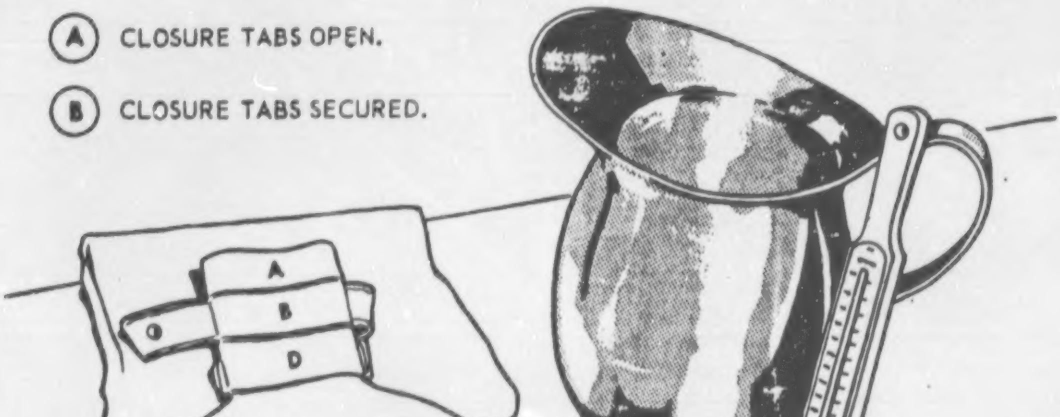


Figure 5-39. Preparation of hot water bottle.

the neck tabs in proper sequence. (A tab first, B tab second, etc.)

4. Test for leaks. Wipe surface dry. Cover with a hand towel or other dry cloth cover.
5. Apply to prescribed area. Tell the patient that is is only intended for the area to which applied.
6. Check skin area before refilling and reapplying; do not apply if an area of heat-induced redness is apparent.

CHEMICAL HEATING PAD, WATER-ACTIVATED

The standard chemical heating pad (fig. 5–40 Ⓐ) in field unit equipment comes complete with a stick and a waterproof cover. Cold water is poured into the opening to activate the chemicals.

1. Clear the opening with the stick.
2. Pour in 30 ml of cold water.
3. Manipulate (knead) the bag briskly with the fingers to mix the water and chemicals.
4. Place the pad in the cover and apply as directed.

CAUTION

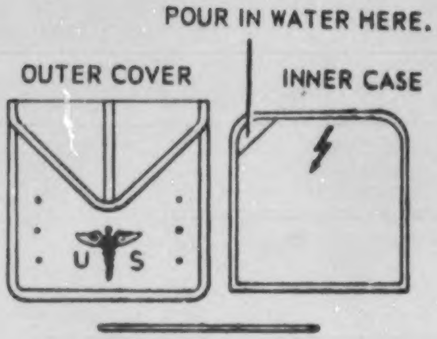
> The amount of heat generated cannot be controlled and will continue for several hours.

5. Check skin area and bag frequently. Apply additional covering between the patient and the pad p.r.n.

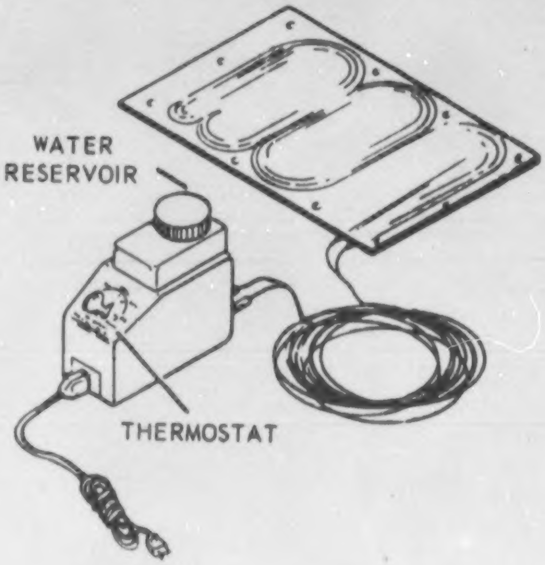
HOT-COLD CIRCULATING PAD (K-PAD)

This device (fig. 5–40 Ⓑ), a standard item, is a special form of electric pad which is safe to use for both dry and moist applications. Unlike the conventional electric pad, there are no electric wires in the pad itself. Water heated to the prescribed temperature circulates from a reservoir through coils inclosed within a lightweight, flexible plastic cover.

1. Use distilled water to fill reservoir.
2. When used for dry applications, inclose the pad in a dry hand towel.
3. When used for moist applications, place the pad over a protective dry covering, unless otherwise directed.
4. Keep the thermostat setting at the prescribed temperature. Safeguard the key used to set the thermostat and do not allow tampering with the thermostat.
5. Check electric connections to the reservoir to be sure the wiring and plug are not damaged.



Ⓐ CHEMICAL HEATING PAD, WATER-ACTIVATED.



Ⓑ HOT-COLD CIRCULATING PAD.

Figure 5–40. Heat treatment pads.

6. Keep pad in place with bandage ties or a towel binder. Do not puncture any part with safety pins.

FLOOR LAMP HEAT APPLICATION

This treatment is often prescribed to promote healing of perineal wounds (male or female) or excoriated (raw) tissue areas associated with lesions such as a decubitus ulcer or the skin area around an unregulated colostomy. The purpose of this form of treatment is to expose to warmth, light, and air a body lesion lying between moist skin folds or one usually covered by a protective dressing. Heat lamp treatment in ward patient care utilizes a standard gooseneck floor lamp and a 25- to 40-watt ordinary light bulb. The amount [illegible]eat is controlled by size of the bulb and distance from the exposed area. Unless otherwise specified, the light bulb is to be about 3 feet from the area treated.

Procedure

1. Screen the bed area to provide privacy.
2. Use aseptic technique in cleansing the area to be exposed to the lamp.
3. Drape the area and position the patient for maximum exposure to the light and warmth. Prevent unnecessary exposure and chilling.
4. Check the patient frequently during the prescribed period of exposure (usually 15 minutes).
5. Be particularly vigilant to exclude flies since they are attracted to the serous drainage from the exposed wound.

5–54. Local Applications of Moist Heat, Clean Technique

Use clean technique for local applications—compresses or packs—applied to intact skin. In addition to observation for reaction to heat, skin exposed to moisture for a prolonged period must be [illegible]erved for any sign of maceration (a destructive softening, puffiness, or wrinkling of the surface). Maceration is prevented by exposing the skin to air for ½ to 1 hour between reapplications of moist heat; this step is important when moist heat is prescribed as a "continuous reapplication." Follow all precautions in table 5–2.

MOIST HOT COMPRESSES (CLEAN)

Compresses are applied to small, local areas. Gauze pads of sufficient size or clean folded washcloths may be used. Ambulatory patients may be instructed to use hot tap water at a conveniently located sink. When compresses are applied at the bedside, obtain a hot plate of approved design and a clean washbasin.

Procedure for Bed Patient

1. Place the hot plate on a table convenient to use. Plug in the plate and turn switch to low.

CAUTION

Never leave a hot plate unattended near a helpless or confused patient.

2. Place basin of water, at a temperature of 110 to 115 degrees, on the hot plate. Do not allow solution to be hotter than the hands can comfortably stand. Place gauze pads or folded washcloths in the hot solution.
3. Place patient in comfortable position, with covered treatment sheet under the body part to be treated in order to protect the bed.
4. Lift hot wet compress from basin. Wring out as dry as possible. Test heat of compress against inner surface of forearm. Lay hot compress gradually on area to be treated, lifting corners to eliminate any steam.
5. Observe skin carefully for redness before reapplying compress. If no unfavorable skin reaction is observed, exchange the cooled compress for a heated one, continuing reapplications for the prescribed length of time, usually for 20 minutes.
6. Turn off hot plate switch and disconnect wall plug after each treatment. Compress may be reused it not soiled.

NOTE

If compresses are to be self-applied by the patient, demonstrate the entire procedure to the patient and have him repeat it. Check from time to time to see that instructions are being followed and to observe skin area.

MOIST HOT PACKS (CLEAN)

Packs (also referred to as massive wet dressings) are applied to a large area such as an entire leg or arm. Bath towels wrung out of hot water are wrapped around the designated area and then bound in place with a moisture-impervious covering. Hot water bottles, chemical heating pads, or a K-pad may be used to keep the pack hot. The extremity being treated is usually elevated and kept at rest during treatment.

Equipment

Hot plate of approved design
Large washbasin with tap water or prescribed solution
Bath towels, 3
Bath thermometer
Rubber or plastic sheeting, for dressing
Safety pins
Prepared hot water bottle, chemical pads, or K-pad
Safety pins or roller bandage
Protective cover, for bed
Pillows for elevation

Procedure

1. Place the hot plate on a table in a spot conven-

ient to use and safe for the patient. Plug in the plate and turn the switch to low.

CAUTION

Never leave a hot plate unattended near a helpless or confused patient.

2. Place basin of solution, at a temperature of 110 to 115 degrees, on the hot plate. Solution should be no hotter than the hands can comfortably stand. Place two bath towels folded in half in the basin of hot solution.
3. Place patient in comfortable position with extremity to be treated elevated properly and completely exposed. Place covered protective sheet under the extremity and over the pillows. On top of protective bed covering, place dry bath towel and rubber or plastic sheeting to bind the hot pack in place.
4. Wring out and test hot towels by touching one to your forearm. Place one hot folded towel under and one over the extremity to be treated in order to completely inclose it. Fold plastic or rubber layer over to inclose hot moist towels. Then fold over the dry towel and pin or fold securely to keep the pack in place.
5. Apply hot water bottles or K-pad to the outside of the towel binding as needed to maintain the pack's heat.
6. Reapply hot pack as prescribed, checking condition of the skin each time. When properly applied, it is possible to maintain the required amount of heat and moisture for about one hour with each hot towel application.
7. When pack is discontinued, pat skin dry.
8. If pack is to be continued day and night, set up a schedule for reapplying to allow a required period of exposure of skin to air. Use clean towels next to the skin p.r.n. to prevent a sour odor. Wash and gently dry the inclosed skin area to remove perspiration and skin secretions, cleansing the skin in this manner before the air exposure period.

ARM OR FOOT SOAKS

The part to be treated is immersed in water or in a prescribed solution, using a large washbasin or oval foot tub. When ordered for treatment of an open wound, sterile equipment and solution are used to reduce contamination; once the part is immersed, however, any organisms present contaminate the solution, and sterility cannot be maintained. The initial use of sterile equipment and a sterile towel to dry the area provides a margin of safety.

Procedure

1. Place the patient in a comfortable, well-supported position, whether in bed or seated on a chair.
2. Put basin or tub in position, placing it on a level, secure surface. Protect the bed, table, or floor p.r.n. with newspapers or a rubber sheet.
3. Start with water or solution at about 105 degrees. Assist patient to immerse his arm or leg. Using a pitcher, pour additional water, heated up to 120 degrees, into the basin or tub.

CAUTION

Pour away from the immersed part to avoid burning the patient.

4. Drape a towel or plastic cover over the tub to retain the heat during the soak period.
5. Following treatment, pat the immersed area dry. Observe and record the appearance of the involved area. Reapply protective dressing p.r.n.

5–55. Warm, Wet, Wound Dressings, Sterile Technique

Warm, wet dressings are ordered as a form of intensive treatment of an infected wound. Two major problems in this treatment are (1) to prevent introducing additional bacteria into the wound; and (2) to prevent wound drainage from contaminating the surrounding area, the patient's environment, and the personnel caring for the patient. The method used must be based on observance of aseptic techniques.

a. *Interval of Application.* The order will indicate the interval for maintaining heat and moisture. It may be "apply dressing every 2 hours for 30 minutes," or simply, "continuous warm moist dressings for 48 hours." In the latter case, the dressing technique should be to remove and replace dressing q. 2 h. This technique provides opportunity for inspecting the skin at regular intervals to detect any sign of maceration. In addition, the dressing saturated with drainage is removed from the infected area instead of seving as an incubation point for multiplication of pathogenic organisms.

b. *Precautions to be Observed.*

- The infected tissue is already damaged and can tolerate only controlled amounts of heat and pressure.

In addition to aseptic dressing techniques, an appropriate means of maintaining warmth, moisture, and a protective covering to control seepage are needed.

- If an extremity is involved, the arm or leg should be elevated. Bed rest, the use of a cradle, and pillow elevation of the involved part must all be considered.

EQUIPMENT

For Setting Up a Sterile Field:
  Dressing set, 2
  Sponge bowl
  4" x 8" compresses
  ABD pads
  Plastic cover*
  Flask of prescribed solution
  Transfer forceps
Washbasin
Gauze bandage
Hot-cold circulating pad or hot water bottle
Hand towel
Safety pins
Rubber sheet
Bath towel
Emesis basin
Paper bag or newspaper
Tray
Pillows and bed cradle p.r.n.

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* Sterile plastic or other sterile moisture-impervious protective material will be available from a CMS with ethylene oxide gas sterilization capability. A dry sterile cover on the moist dressing is important.

PROCEDURE

1. Place unopened flask of prescribed sterile solution in basin of hot tap water to warm solution. Allow 20 to 30 minutes, with renewal of hot water.
2. Explain procedure to patient.
3. Turn back bedding. Expose area to be treated. Place covered rubber sheet under part to be treated. If this part is an extremity, elevate on pillows, placing rubber sheet and cover on top of pillow surface.
4. Prepare bed stand or supplementary table space.
5. Wash hands.
6. Set up sterile field. Set up one field for removal of dressing p.r.n. Set up wet dressing field on separate tray.
7. Remove soiled dressing. Cleanse wound area. Discard instruments. Wash hands.
8. Place 4- by 8-inch gauze in sterile basin. Pour warm sterile solution over it. With two forceps, wring slightly to remove excess moisture, but retain wetness. Place several layers of wet gauze directly on wound surface. Cover wet gauze surface with ABD pad, and then cover ABD pad with plastic sheet. (When applied to an extremity, the plastic may be secured with one or two turns of roller gauze.)
9. Place pre-set aquamatic pad on the plastic over the wound area. Cover aquamatic pad with hand towel to concentrate warmth. If hot water bottle is used, apply and support in place with towel binder.
10. Adjust cradle over body area.
11. Remove and clean equipment. Wash hands.
12. Repeat procedure in 2 hours or at specified intervals. For maximum safety, use sterile dressing sets for each change of wet dressing. Note amount of drainage and condition of skin. Report puffiness or wrinkling immediately.

5–56. Throat Irrigation

A throat irrigation is an effective means of applying moist heat to the upper pharynx to relieve inflammation and mechanically wash out sticky secretions. The patient holds the irrigating tip and directs the flow of solution, while the medical specialist instructs and assists. This is a clean, but nonsterile, procedure.

EQUIPMENT

Irrigation set, with—
  Irrigating can
  Tubing 18 to 24 inches in length
  Plastic/glass connector tip
Large washbasin
Solution—hot tap water (115–120 degrees) or hot saline (1 level teaspoon salt to 1 pint of water)
Rubber treatment sheet
Bath towel
Safety pin

PROCEDURE

1. Test solution—it should be as hot as the patient can tolerate but not over 120 degrees.
2. Have the patient sit upright. Place the rubber sheet and bath towel bib fashion around his neck.
3. Place the washbasin on an elevated over-the-bed table in front of the patient. If a table is not available, have the patient hold the basin.

Figure 5-41. Throat irrigation.

4. Instruct the patient to hold his head forward, to exhale and then hold his breath while the solution is flowing, and to direct the flow to the painful throat area (fig. 5-41). Assure him the flow of solution will be controlled to permit him to rest and breathe at frequent intervals.

5. Pinch the tubing, elevate the can, and hand the patient the glass tip.

6. Release the tubing as he exhales. Watch the patient to insure that he does not choke. Pinch the tubing and lower the irrigating can as he rests and takes a breath. When all the solution has been used, discontinue the treatment.

7. Leave the patient dry and comfortable. (An ice collar is an effective followup to the hot throat irrigation.)

8. Rinse the irrigating can and basin thoroughly. Since the treatment is most effective if repeated q. 3 h. or q. 4 h., the can and basin may be inclosed in a clean paper bag or towel and left at the bedside between treatments. If treatment is continued for more than 1 day, exchange the used irrigating set for a fresh set from CMS.

5-57. Sitz Bath

In this procedure, the patient sits in a tub of water immersed to the hips only. The sitz bath is commonly ordered to promote healing following rectal surgery such as hemorrhoidectomy or to treat pelvic inflammation. A standard portable sitz bath chair (fig. 5-42) may be available for bedside treatment. However, the bath is usually given in an ordinary bathtub. The initial bath must be prepared for the patient and the procedure supervised. As the patient tolerates the treatment and gains strength and confidence, it becomes a self-care measure.

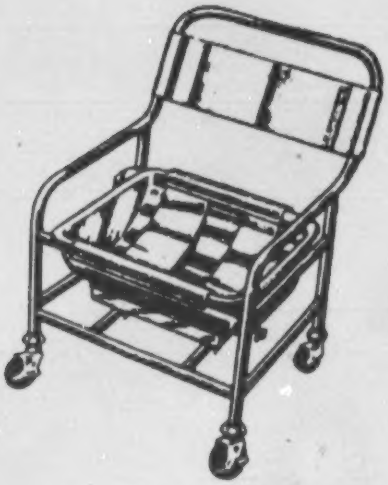


Figure 5-42. Sitz bath chair.

PROCEDURE FOR POST-RECTAL SURGERY

This procedure is based on the use of a standard bathtub. The temperature of the water and the duration and frequency of bath are as ordered. The bathroom should be warm and free of drafts, and the patient should return to his bed to rest following the procedure.

1. Preheat the clean tub by rinsing with hot tap water. Then fill to a depth of 8 inches with water at about 105 degrees.

2. Place an inflated rubber ring or a sponge rubber ring in the tub for the patient to sit on.

NOTE

A clean footstool may be placed in the tub for elevation of the patient's legs and feet during the sitz bath. This measure helps concentrate the hot soak effect on the pelvic area.

3. Assist the patient to undress and to sit in the tub, on the ring, with his knees drawn up to his chin or with feet elevated on the stool. If a T-binder and dressings are used, remove these before immersion.

CAUTION

Do not attempt to remove packing, if present.

4. Drape shoulders with a dry bath towel or cotton blanket p.r.n.

5. If water temperature is to be increased, add hot water gradually after positioning the patient.

CAUTION

Do not exceed 120 degrees.

6. Check water temperature every 5 minutes. Regulate as needed by gradually draining off cool water and adding hot water.
7. Check patient's pulse and tolerance of the procedure during the treatment, which may last from 5 to 20 minutes.

CAUTION

If patient is left in the tub unattended, be sure that the door is unlocked and that the patient has a tapbell.

8. Assist the patient out of the tub p.r.n. Assist with replacement of clean, dry dressing and T-binder p.r.n. Assist back to bed.
9. Scour the tub. Wash and dry the footstool and rubber ring.

5-58. Local Applications of Cold

Cold is applied to small localized areas of the body in a dry form by means of an ice bag or in a moist form by means of iced, moist compresses. Continuing contact with cold produces numbness as well as constriction of blood vessels. While both of these effects may be desired, the area to which cold is applied must be watched closely since the patient may not complain of symptoms indicating possible tissue damage. Local signs of unfavorable reactions to cold include pallor, blueness, or mottling (blotchy) discoloration of the skin. If these signs are noticed, discontinue the application immediately and report the observation. When continuous moist cold is ordered, remove for 20 minutes every 2 hours.

APPLICATION OF ICE BAG

The ice bag may be a dual-purpose, hot water bottle or an ice collar. (A securely tied plastic sack or latex rubber glove may also be used to advantage when a flexible, lightweight container is needed to apply ice to the eye or nose.)

Procedure

1. Crack or crush the ice to eliminate large pieces and sharp edges.
2. Fill the container only half full with ice; expel all air so that it will be flexible. Close securely and test for leaks.
3. Wipe the surface of the container dry. Inclose it completely in a dry cloth, using a cloth bag, stockinette, several layers of gauze, or a hand towel.
4. Apply container so that it is in contact with the designated local area, propping where necessary to relieve weight and pressure.
5. Check and refill as necessary to keep the local area cold for the prescribed period.

NOTE

Always change the cover if it becomes moist.

6. Observe the skin area carefully. Discontinue application and report unfavorable reactions stat.
7. When treatment is discontinued, drain, wash, dry, and inflate the bag with air before returning it to its proper storage place.

APPLICATION OF COLD COMPRESSES

The compress should be several layers thick and of sufficient size to cover the designated area. Gauze pads or clean, folded washcloths are used. These are often self-applied, following instructions and initial assistance.

Procedure

1. Place protective cover under the part to be treated to protect the bedding.
2. Place large pieces of ice in a hand basin or sponge bowl. Place moistened compresses or clean folded washcloth (in sufficient number to permit frequent exchange) on the ice.
3. Squeeze excess moisture from a chilled compress and apply quickly to designated area. Do not cover the compress.
4. As the compress loses its coolness, exchange it for a freshly chilled and moistened one. This step is repeated every 1 or 2 minutes for the 15- or 20-minute application period.
5. When treatment is discontinued, wash and dry the basin.
6. Start each application with clean water and ice. Replace gauze or washcloth p.r.n. as they become soiled.

5-59. General Application of Cold

Cooling of the entire body is accomplished by means of a special hypothermia unit (cooling blanket) used under the supervision of an anesthetist or by a cooling sponge bath given by nursing personnel. Only the cooling sponge bath is discussed in this section, as nursing personnel who assist in the care of a patient receiving hypothermia unit treatment will follow the policy established by local authority.

COOLING SPONGE BATH

This is ordered to reduce body temperature when a patient has a temperature elevation, usually 103 degrees or over. An assistant may be required, depending upon the condition of the patient.

Equipment

Bed-length rubber sheet, 1
Cotton blankets, 2
Washcloths, 8
Bath towels, 2
Filled hot water bottle with cover
Filled ice bag with cover
Large basin half full of tepid (95 degrees) water, or cool to cold (75–90 degrees) water. (The order should specify the degree of coolness.)
Bottle of 70-percent alcohol

Procedure

1. Take and record TPR.
2. Prepare bed unit and patient as for a cleansing bed bath, placing the large rubber sheet and one cotton blanket so as to protect the foundation of the bed.
3. Place the ice cap to the patient's head and the hot water bag to his feet.
4. Place a cool, moist, folded washcloth, wrung out of the sponging solution, in each axilla, each groin, and under each knee. Replace these frequently as they become warm.
5. Following the same order as in the cleansing bath, omitting the hand and foot soak and the pubic area, sponge the patient's body. Use long light strokes with the well-moistened cloth, sponging the anterior body for 3 minutes and the back for 7 minutes. Exchange cloth in use as it becomes warm with the cloth in the cool solution.
6. Repeat the entire sequence, for a total of 20 minutes sponging. Completely expose the part of the body being sponged to allow evaporation and to aid cooling.
7. During treatment, observe color and pulse.

CAUTION

> Stop treatment if pulse increases and shivering starts. Wrap patient in a dry cotton blanket and report reaction stat. to nurse or doctor.

8. Following the second sponging, pat the patient dry. Do not rub.
9. Apply alcohol in long, light strokes to arms, legs and back. Allow alcohol to evaporate; do not pat dry.
10. Remove rubber protective sheet. Remove ice cap and hot water bottle. Replace pajamas and light top covers. Leave patient in comfortable position in clean, dry bed.
11. Remove and clean equipment.
12. Check temperature by rectal thermometer 1/2 hour after cooling sponge. Take pulse and respiration. Compare with baseline TPR.
13. Record TPR. Record treatment and patient reaction on Nursing Notes; verbally report results to nursing team leader or doctor.

MODIFICATION OF COOLING SPONGE

When rapid reduction of a very high temperature is required, cool the body quickly by placing bath towels wrung out of cold, or even iced, water on the exposed extremities, back, chest, and abdomen. Use only a loin cloth to drape the patient. Change the towels in succession as they become warm. In extreme cases, the doctor may order an electric fan to blow over the moistened towels to increase evaporation and cooling.

WARNING

> Never use this method without the specific order of and supervision by the doctor.

5–60. Venipuncture

a. General. Venipuncture is the entering of a vein with a needle (1) to obtain a blood specimen for laboratory tests or (2) to inject medications or intravenous solutions. In Army Medical Department facilities, a medical officer usually performs all venipunctures for the purpose of injecting medications and solutions, and a qualified laboratory specialist performs venipuncture for the purpose of obtaining a blood specimen. Local policy determines when a nurse officer, clinical specialist (91C), or medical specialist (91B) performs a venipuncture for any reason.

b. Site for Venipuncture. The recommended site for venipuncture when performed by the clinical or medical specialist is the antecubital area of either forearm, just below the bend of the elbow. In this area, branches of two major superficial veins, median basilic or median cephalic, are prominent and usually accessible through a skin puncture. Alternate sites may be selected by the medical officer for venipuncture such as accessible superficial veins in the dorsal area of the hand, wrist, or foot.

1135

EQUIPMENT

IV tray with—
Sterile needles, assorted sizes 18-20, 2 inches long, individually wrapped in plastic or glass tubes
Sterile dry syringes, sizes 5 to 20 ml., individually wrapped
Blood specimen collection tubes and vials from the laboratory[1]
Flexible latex tubing, about 18 inches long (for tourniquet)[2]
Gauze, 2 inch x 2 inch squares in container of prescribed skin germicide (or foil packet)
Sterile package of dry 2 inch x 2 inch gauze
Rubber or plastic protective sheet
Towel

[1] Vials for unclotted blood specimens contain an anticoagulant such as sodium citrate. Always verify what type tube is to be used.

[2] Do not use too short a length of tubing—although it can be stretched for application, it will be too constricting.

PROCEDURE

1. Place an identifying label on the blood collecting tube.
2. Wash hands.
3. Assemble needle and syringe. Attach needle so that its bevel and the syringe graduations are visible on the same side. Test assembly by pulling plunger back and forth to insure that the needle is not plugged and that the syringe works smoothly. Push the plunger all the way into the barrel to eliminate all air; then replace the needle protector tube before setting syringe assembly aside temporarily.
4. Position patient so that the fully extended arm is supported at bed or table level. Roll sleeve well above the elbow.
5. Place protective sheet and towel under the extended elbow and forearm.
6. When applying a tourniquet, use soft-walled latex tubing about 18 inches in length. Place tubing around limb about 2 inches above site of venipuncture. Hold one end so that it is longer than the other, forming a loop with the longer end. Pass this looped end under the shorter end of the tourniquet. When placing tourniquet, be certain tails of tubing are turned away from proposed site of injection. Apply tourniquet (fig. 5-43) tight enough to stop venous flow but not so tightly that radial pulse cannot be felt. Tell patient to open and close fist several times to increase circulation.

CAUTION

Do not leave tourniquet tightened for more than 2 minutes at any one time.

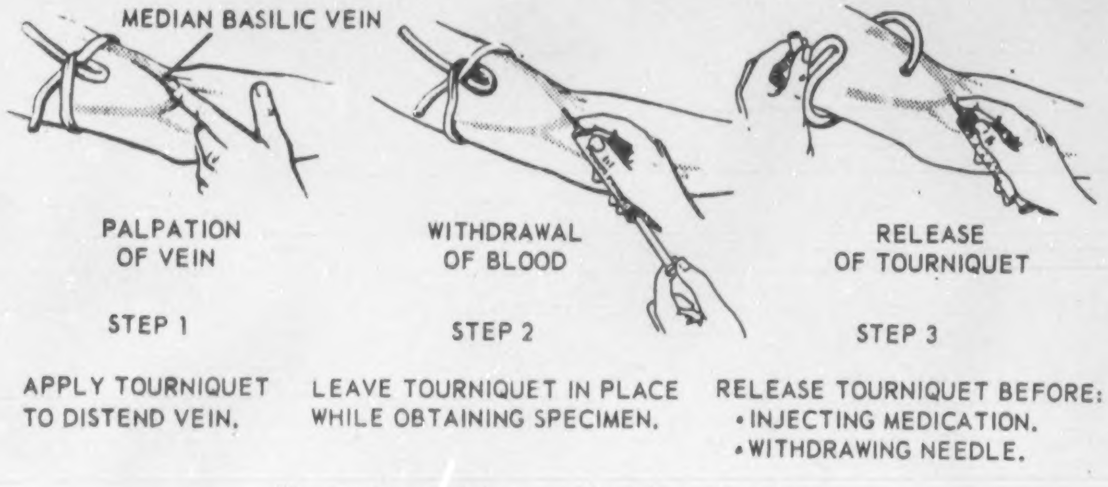
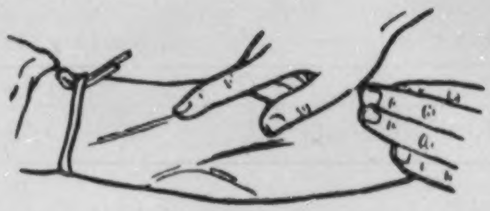

MEDIAN BASILIC VEIN
PALPATION OF VEIN
STEP 1
APPLY TOURNIQUET TO DISTEND VEIN.
WITHDRAWAL OF BLOOD
STEP 2
LEAVE TOURNIQUET IN PLACE WHILE OBTAINING SPECIMEN.
RELEASE OF TOURNIQUET
STEP 3
RELEASE TOURNIQUET BEFORE:
• INJECTING MEDICATION.
• WITHDRAWING NEEDLE.

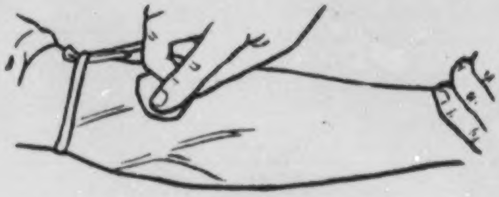
Figure 5-43. Applying a tourniquet for venipuncture.

Technique of Obtaining Blood By Venipuncture

Step 1. Select prominent veins in the antecubital area. Wet area with germicide to facilitate palpitation of veins with fingertips. Touch distended vein with fingertips and estimate tissue support; the vein selected should not roll unduly. Tell patient to close fist and keep it closed until further notice.

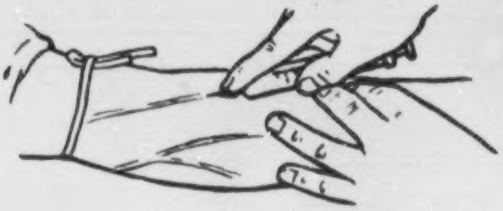


Step 2. Cleanse skin over selected area with germicide-saturated gauze square, using firm circular movements from center outward. Allow skin to dry. Discard gauze in basin.



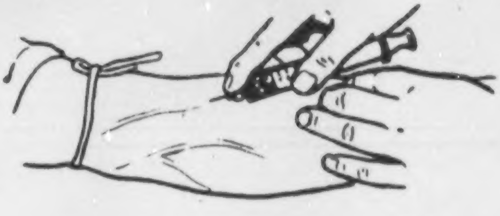
Step 3. Pick up assembled syringe and needle. Remove needle protector tube, and check to insure that plunger is all the way into the barrel. Grasp syringe with needle bevel up. Place forefinger on needle hub to guide it during insertion through the skin and into the vein.

Step 4. Position self so as to have a direct line of vision along the axis of the vein to be entered.

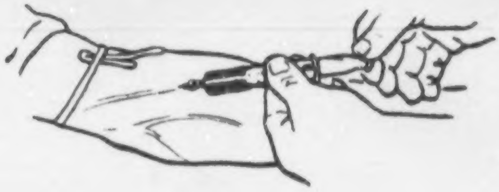


Step 5. With free hand, draw skin below cleansed area downward to hold the skin taut over selected puncture site. Place needle point, bevel up, parallel to and about ½ inch below the site of the venipuncture.

Step 6. Holding needle at approximately a 30-degree angle, insert it through the skin, lower it to a flat angle, and then move it forward parallel to the vein for about ½ inch.



Step 7. Direct needle point into vein with a slight sidewise movement. A faint "give" will be felt, and on entry into the lumen of the vein, blood will appear in the syringe. Advance needle slightly, watching for increased blood flow. Use care to prevent the through-and-through penetration of the vein walls with the needle; keep needle at same angle.



Step 8. If venipuncture is successful, obtain the blood specimen. Hold syringe and needle steady with one hand, and use the other hand to aspirate by gently pulling on the plunger to obtain the required amount of blood.

NOTE

If venipuncture is unsuccessful, withdraw the needle slightly and try once again to direct the needle point into the vein before withdrawing the needle from the skin.

CAUTION

On repeated failure, release the tourniquet. Withdraw the needle, placing a dry, sterile, 2- by 2-inch gauze square over the needle site as the needle is withdrawn. Notify nurse or medical officer before attempting to enter another vein.

Step 9. Release tourniquet, telling patient to relax and open his clenched fist.

NOTE

The tourniquet is removed after obtaining required specimen but before withdrawing the needle from the vein.

Step 10. Place a dry, sterile, 2- by 2-inch gauze square over the needle site and withdraw needle. Tell patient to keep arm extended and to press g[illegible]e gently against puncture area for 2 or 3 minutes.

Step 11. Collect required blood specimen from syringe as soon as possible, before blood starts to clot. Always remove needle from syringe and run blood down on inner side of the collection vial, using gentle pressure on the plunger to avoid foam and injury to the blood cells. If the vial contains anticoagulant, insert stopper and gently invert several times to mix.

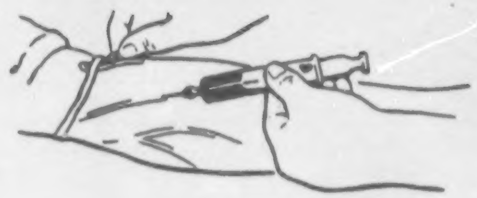
CAUTION

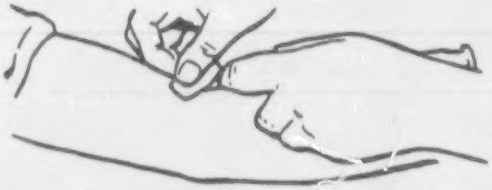
Never shake the blood collection vial.

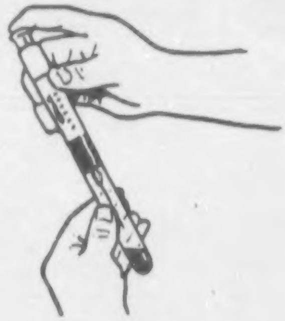
Step 12. Adjust patient's sleeve and leave him in a comfortable position.

Care of Equipment

1. Immediately aspirate cold water into reuseable syringe and needle. Use care to protect self from needle puncture.
2. If disposable equipment is used, place needle protector on needle and snap off shaft to prevent misuse; hold a disposable syringe in a fold of towel and break the syringe before discarding it in a waste receptacle.







3. Remove tourniquet and protective sheet from the bed. Check the puncture site. Usually, no dressing is needed after initial pressure period. If blood continues to ooze from the puncture site, apply a small dry dressing, using a dry, sterile 2- by 2-inch gauze pad and adhesive tape, or a sterile adhesive compress strip.

CAUTION

Be sure to record venipuncture and the specimen collected.

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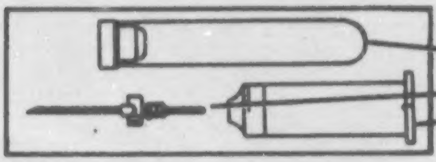


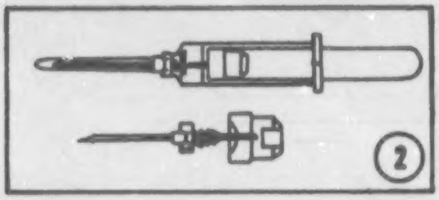
THE VACUTAINER SYSTEM CONSISTS OF

EVACUATED TUBE WITH RUBBER STOPPER.

DOUBLE POINTED NEEDLE.

PLASTIC HOLDER WITH GUIDELINE.

NOTE: HOLDER AND NEEDLE ARE ALSO SUPPLIED ASSEMBLED, IN STERILE PACKAGE.

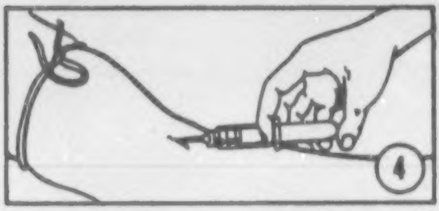


DIRECTIONS

① THREAD NEEDLE INTO HOLDER SECURELY.

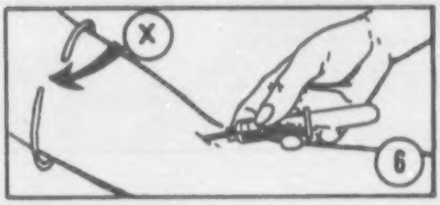
② INSERT TUBE IN HOLDER ONTO NEEDLE UNTIL LEADING EDGE OF STOPPER MEETS GUIDELINE ON HOLDER. THE STOPPER AND TUBE WILL RETRACT SLIGHTLY. LEAVE IN THIS POSITION. NEEDLE IS NOW EMBEDDED IN STOPPER DIAPHRAGM AND VACUUM IS MAINTAINED.

③ PREPARE FOR VENIPUNCTURE IN USUAL MANNER.



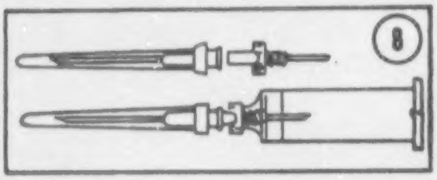
④ AFTER NEEDLE IS UNDER SKIN, PLACE FIRST TWO FINGERS OF HAND BEHIND FLANGE OF HOLDER AND PLACE THUMB OF SAME HAND ON END OF TUBE. GENTLY PULL WITH FINGERS ON FLANGE WHILE PUSHING ON TUBE WITH THUMB UNTIL TUBE IS PUSHED ONTO NEEDLE TO BOTTOM OF HOLDER.

⑤ IF NEEDLE IS IN VEIN, BLOOD WILL FLOW INTO TUBE. WHEN BLOOD ENTERS TUBE, PROBE FOR VEIN UNTIL VEIN ENTRY IS INDICATED BY BLOOD FLOWING INTO TUBE.



⑥ RELEASE TOURNIQUET WHILE TUBE IS FILLING. Ⓧ

⑦ WHEN VACUUM IS EXHAUSTED AND BLOOD NO LONGER FLOWS INTO TUBE, REMOVE ENTIRE ASSEMBLY FROM ARM. THE TUBE MAY THEN BE REMOVED FROM THE HOLDER.



ADAPTER

⑧ THE VACUTAINER ADAPTER MAY BE USED WITH LUER SLIP NEEDLE IN PLACE OF VACUTAINER NEEDLE. THREAD ADAPTER INTO VACUTAINER HOLDER SECURELY. ATTACH LUER NEEDLE TO END OF ADAPTER. PROCEED PER DIRECTIONS FROM #2.

MULTIPLE SPECIMENS

⑨ FOR MULTIPLE SPECIMENS WITH ONLY ONE VENIPUNCTURE, REMOVE TOURNIQUET WHILE FIRST TUBE IS FILLING AND PROCEED WITH EITHER OF THE METHODS FOR CHANGING TUBES AS DESCRIBED BELOW.

⑩ WHEN ALL BLOOD SAMPLES ARE DRAWN, REMOVE ENTIRE ASSEMBLY FROM ARM. THE LAST TUBE OF BLOOD MAY THEN BE REMOVED FROM HOLDER.

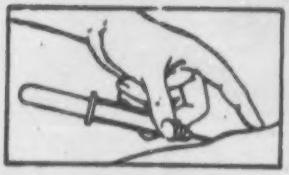
NOTES

1. TUBES WITH POWDERED ANTICOAGULANTS SHOULD BE TAPPED NEAR THE STOPPER TO DISLODGE ANY ANTICOAGULANT THAT MAY BE BETWEEN STOPPER AND WALL OF TUBE.
2. ALL TUBES WITH ANTICOAGULANTS SHOULD BE FILLED TO THE EXHAUSTION OF THE VACUUM TO INSURE PROPER RATIO OF ANTICOAGULANT TO BLOOD.
3. ALL TUBES WITH ANTICOAGULANTS SHOULD BE MIXED THOROUGHLY BY GENTLE INVERSION SEVERAL TIMES. DO NOT SHAKE VIGOROUSLY. SOLUBILITY OF SOME ANTICOAGULANTS IS SLOW (E.G., SODIUM FLUORIDE). THEREFORE LONGER MIXING MAY BE REQUIRED. IF MULTIPLE SAMPLES ARE DRAWN, TUBES MAY BE MIXED WHILE SUCCEEDING TUBES ARE FILLING.

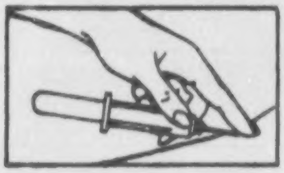
Figure 5-44. Vacutainer method of blood specimen collection.*

METHODS FOR CHANGING TUBES

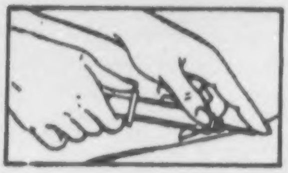
IF IN VEIN WITH NEEDLE BEVEL UP:



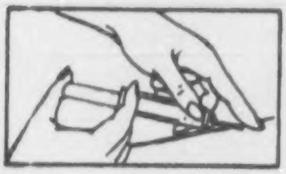
① USE THUMB AND 2D FINGER OF LEFT HAND TO GRASP BOTTOM OF HOLDER.



② GENTLY PRESS PAD OF LEFT-HAND INDEX FINGER OVER NEEDLE BEVEL, AS IT IS POSITIONED IN VEIN, TO STOP BLOOD FLOW.

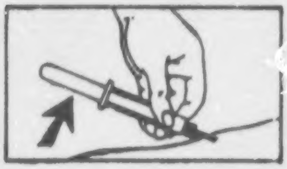


③ PLACE RIGHT-HAND THUMB AGAINST HOLDER FLANGE, KEEPING IT AWAY FROM TUBE, USING THUMB TO PUSH AGAINST FLANGE. WRAP RIGHT-HAND FINGERS AROUND TUBE AND PULL TUBE OUT WITH PRESSURE FROM FINGERS.

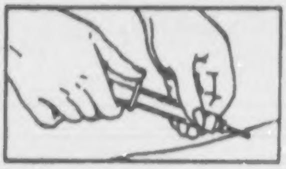


④ STORE FILLED TUBE SAFELY. PICK UP NEW TUBE, PLACE TWO RIGHT-HAND FINGERS BEHIND HOLDER FLANGE AND USE RIGHT-HAND THUMB TO PUSH TUBE ALL THE WAY ONTO PUNCTURE NEEDLE. RELEASE LEFT-HAND FOREFINGER FROM VEIN TO LET TUBE FILL WITH BLOOD.

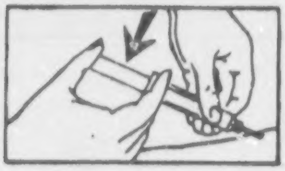
IF IN VEIN WITH NEEDLE BEVEL DOWN:



① WITH LEFT HAND, RAISE TUBE HOLDER, TO PRESS NEEDLE BEVEL AGAINST LOWER VEIN WALL AND OCCLUDE BLOOD FLOW.



② PLACE RIGHT-HAND THUMB AGAINST HOLDER FLANGE, KEEPING IT AWAY FROM TUBE. USING THUMB TO PUSH AGAINST FLANGE, WRAP RIGHT-HAND FINGERS AROUND TUBE AND PULL TUBE OUT WITH PRESSURE FROM FINGERS.



③ STORE FILLED TUBE SAFELY, PICK UP NEW TUBE. PLACE TWO RIGHT-HAND FINGERS BEHIND HOLDER FLANGE AND USE RIGHT HAND THUMB TO PUSH TUBE ALL THE WAY ONTO PUNCTURE NEEDLE. LOWER TUBE HOLDER TO RE-POSITION NEEDLE IN VEIN LUMEN, LET TUBE FILL WITH BLOOD.

Figure 5-44—Continued.

Alternate Measure—Vacutainer*

An alternate method of venipuncture is illustrated in figure 5-44.

5-61. Intravenous Infusion

Intravenous infusion is the introduction of large amounts of fluids into a vein to replace or maintain the supply of body fluids, electrolytes (body salts), and some nutrients. The venipuncture and the start of intravenous therapy are usually performed by a medical officer. In emergency situations, however, these procedures may be performed by a trained assistant under the direct supervision of the medical officer if such a procedure is in accordance with local policy directives. Ordinarily, the medical specialist assists with IV procedures by preparing the patient, preparing the equipment, assisting the medical officer as necessary, and by continuing observation of the patient and the equipment during the intravenous procedure.

PRECAUTIONS

1. Use aseptic techniques.
2. Follow general rules for administering medications when working with any IV solutions. Always check solution labels with the doctor's order.
3. Use only solutions labeled as specially prepared for IV therapy. Solutions frequently ordered are:
    a. Normal (physiological) saline, which contains 0.85 percent sodium chloride in sterile distilled water. This is an example of an electrolyte solution often used in treating dehydration. Other salt solutions such as Ringer's contain several electrolytes in addition to sodium chloride.
    b. Glucose or dextrose, 5 percent in distilled water. These are carbohydrate (sugar) solutions, providing fluid and some nutrition. (Each 100 ml. of a 5-percent glucose or dextrose solution provides 20 calories.)
    c. Plasma expanders (colloid solutions) such as dextran. Dextran is supplied in 500 ml. units and is used in emergency treatment of shock or hemorrhage as a temporary substitute for blood.
    d. Whole blood supplied in 500 ml. plastic-pack units or 500 ml. glass flasks.
4. Watch for infiltration. This is indicated by swelling and coldness at the needle site, which is caused by the needle being out of the vein and fluid entering the tissues. Check the needle site at regular intervals and always after moving and changing the patient's position, whether or not an arm board or splint is used. To check, lower the IV solution bottle below the level of the patient's bed. If blood flows back into the IV tubing, the needle remains in the vein. If infiltration occurs, clamp off the tubing and notify the nurse or doctor. Do not attempt to manipulate the needle.
5. Watch for infusion reactions. These may be indicated by a chill or a sudden increase in pulse rate, dyspnea, chest pain, or restlessness. Clamp off the tubing immediately, and notify the nurse or doctor. If the infusion is discontinued, find out if the remaining solution and infusion tubing and needle must be saved for laboratory tests.
6. Watch level of solution in the flask. Do not permit fluid to run completely out of the neck of the flask. Clamp off the tubing before this occurs in order to prevent air from entering the tubing and subsequently the patient's vein.
7. Accurately record the IV fluids given on the I & O worksheet on the ward. Follow the exact procedure used locally for recording each unit started and the amount of each unit received.
8. Know how much IV fluid is to be administered over a given period of time and how to observe and regulate the rate of flow, which is ordered by the medical officer. As a general rule, 3 to 4 hours are required for each 1000 ml. of solution. For a patient in shock or in other emergency conditions, the fluid may be ordered to be given at varying rates.

CAUTION

> A patient receiving IV fluids at an unusually fast or an unusually slow rate requires extra vigilant nursing observation.

9. To regulate the rate of flow, know the number of drops per milliliter delivered by the IV set used and the number of milliliters per minute the patient is to receive. Read the instructions on the carton in which the disposable IV set is packed to determine the number of drops per milliliter delivered by the set to be used. To calculate the rate of flow in drops per minute to be maintained, divide the total amount to be given by the total number of minutes, and multiply by the number of drops per milliliter delivered by the IV set used.

EXAMPLE:

1000 ml. is to be given in 3 hours.
The set used is calibrated to 10 drops per ml.

1000 ml. ÷ 180 minutes + 5.5 ml. per minute

5.55 ml. × 10 = 55.5 drops

ANSWER: Regulate the drip device by adjusting the clamp to deliver 56 drops per minute for a period of approximately 3 hours.

EQUIPMENT

IV tray
Disposable IV infusion set
Polyethylene intravenous catheter, as ordered
Solution ordered
IV standard
Padded arm board p.r.n.
Gauze bandage p.r.n.

PROCEDURE WHEN ASSISTING WITH IV INFUSION

1. Assemble equipment.

CAUTION

Compare label on flask of solution with doctor's order.

2. Prepare patient by explaining what is to be done and by reassuring him.
3. Offer a bedpan or urinal.
4. Place patient in as comfortable position as possible, preferably supine, with either arm accessible for choice of venipuncture site.
5. If bedside cabinet is used for the IV tray, remove unnecessary articles.
6. Place the IV standard at the head of the bed convenient to but not obstructing the work area.
7. Cut three adhesive strips, about 4 inches long and ½ inch wide, and stick these loosely to the IV standard. They will then be accessible for securing the needle in place following the venipuncture.
8. Just before the venipuncture, remove the tubine from the carton and from the plastic envelope.

CAUTION

Use aseptic techniques: wash hands; expose sterile equipment to air for minimal amount of time.

9. Check to see if there is an airvent needle in the set and a venipuncture needle attached to the adaptor. If not, select a size 18 needle for the airvent and a size 20 needle for the venipuncture from the IV tray.

Remove the metal cap and discs from the solution flask. The surface of the stopper is sterile at this point and requires no wiping with germicide.

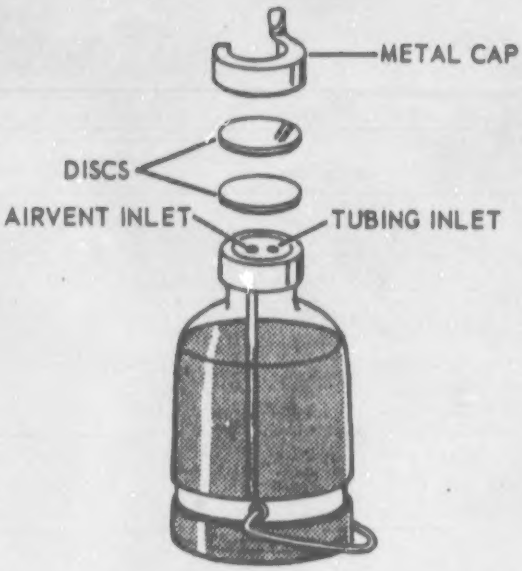


Figure 5–45. Identification of airvent inlet and tubing inlet (IV flask).

11. Identify the airvent inlet flow (fig. 5–45) and the tubing inlet on the flask. The airvent inlet communicates with the glass tube. Insert the airvent needle into the airvent inlet. There should be a sound of air, and bubbles should appear in the solution; if this does not occur, discard the flask and obtain a new one.

NOTE

With some IV infusion sets, a vent needle is not required, In this situation, the bottle must be quickly inverted when the drip chamber is inserted in order to check the solution.

12. Remove the protective plastic seal from the tip of the drip chamber. Using moderate pressure and a twisting movement, insert the tip into the tubing inlet.
13. Place the control clamp below the drip chamber. Close the clamp.
14. Invert and suspend the flask on the IV standard, elevating it about 2 feet above the level of the bed.
15. Expel the air from the tubing: Hold the needle adaptor over the emesis basin, remove and save the protector cap, release the clamp, and allow solution to run freely through the tubing into the basin. Close the clamp and replace the needle protector cap. Loop the

needle end of the tubing over the flask until ready to start the venipuncture.

16. Assist with the venipuncture. The medical officer or individual authorized to start the infusion will select the site for venipuncture, apply the tourniquet, cleanse the skin, and instruct the patient. The assistant follows the operator's instruction and should be prepared to—
    a. Release the tourniquet on signal.
    b. Open the clamp and adjust the solution flow according to the orders.
    c. Assist with securing the needle in place. The operator may prop the needle in optimum position with a folded gauze square under its hub. The needle is then secured to the skin by using the three strips of prepared tape, placing two crossed over the needle's hub and one about 6 inches distal to the hub, looping the tubing slightly to avoid tension.
    d. Splint the arm loosely on the padded arm board to reduce movement. If the arm must be extended during the infusion, secure the board above the elbow and below the wrist with gauze ties. Take care not to tie the bandage so tightly that it will interfere with circulation. When the dorsal area of the wrist or hand is used for the infusion site, a short arm board is used to restrict wrist and hand movement, but not necessarily elbow movement. Flex the fingers over the end of the board.

NOTE

The IV tubing carton makes an excellent wrist and palm splint.

17. Record type and amount of fluid on I & O worksheet.
18. Record time started, by whom, site, type and amount of fluid, and rate of flow on DD Form 640 (Nursing Notes).

Care and Observation of the Patient During an Infusion

1. Know what position changes or movements are permissible. In general, the patient must lie quietly with no abrupt movement of the part of the body where the needle is inserted. Report immediately any suspicion of infiltration.
2. Watch for any signs of reactions. Take the pulse frequently. Watch the patient's color. Clamp the tubing and report immediately if the patient complains of feeling chilly or if shivering occurs.
3. Watch the drip regulator, counting the required number of drops to maintain the required milliliter flow per minute. Report if fluid stops flowing into the drip chamber or if required rate of flow is not maintained. If so instructed, adjust clamp to regulate flow.
4. Notify the responsible individual when the level of solution approaches the inlet of the bottle's neck. Do not change bottles or discontinue treatment by removing the needle unless specifically authorized to do so.

Changing Solution Bottle for Continuing Infusion

1. If authorized to change the solution bottle, prepare to do so when the level of the solution in use is in the neck of the draining bottle. Clamp the tubing to insure that no air enters the tubing in use. This tubing will be inserted into the new bottle.
2. Check the order and the label of the replacement bottle.
3. Wash hands.
4. Obtain a sterile airvent needle (size 18) from the IV tray p.r.n.
5. Remove the seal from the replacement bottle. Insert the airvent needle. Place this bottle on the table.
6. Check again to insure tubing in use is clamped off.
7. While the bottle to be replaced is still inverted on the standard, hold this bottle steady and remove the drip insert, holding the tip of the drip insert upright and elevated, being careful not to contaminate the tip. Remove the discontinued bottle from the hook.
8. Place the new bottle on a firm base; insert the drip chamber into the tubing outlet of the new bottle. If no needle vent is required, quickly invert the bottle to be sure it is safe to use. (Because the tubing is clamped, no air will enter the system.)
9. Hang the new bottle on the hook.
10. Open the tubing clamp and observe closely for resumed flow of solution. Check the drip chamber and the connector tip that is inserted into the IV needle.
11. Adjust clamp to required drip flow.
12. Check the needle site.
13. Stay with patient and observe the newly at-

tached bottle closely for continuing flow and drip rate. Also observe the patient's reaction for at least 5 minutes.

14. Record the amount received and the new unit started on the I & O worksheet and in Nursing Notes, following local directions for making the entry.

Discontinuing IV Infusion

1. If authorized to discontinue an infusion, prepare to do so when the level of the solution is in the neck of the last bottle to be given.
2. Clamp the tubing. Carefully remove the adhesive tape from the hub of the needle and the tubing.
3. Place a dry, sterile gauze square over the site of the venipuncture.
4. Withdraw the needle and apply pressure over the site until any oozing stops.

NOTE

It may be necessary to apply a strip of adhesive to fasten the gauze over the site.

5. Use a solvent such as acetone or benzine to remove tape marks from the patient's skin p.r.n.
6. Adjust the patient's clothing and position. Make the patient comfortable.
7. Take all equipment to the workroom. Discard the tubing and disposable needles, following local directives.
8. Check and restock the IV tray. Clean the IV stand and return it to the proper storage area.
9. Record the time the infusion was completed, the solution administered, the amount received, and any reaction noted in Nursing Notes.

5-62. Assisting With Blood Transfusion

Blood transfusion is the transfer of whole blood from one individual (the donor) to another (the recipient). The usual procedure is indirect transfusion by means of an intravenous infusion of blood that has been obtained from the blood bank section of the hospital laboratory.

NOTE

Intra-arterial technique for blood transfusion may be used by the doctor as an emergency resuscitation measure.

Every individual concerned with blood transfusion must be aware of precautions to be followed from the time the blood is requisitioned by the doctor to the followup observations of the transfused patient.

a. Requisitioning of Blood. Requests for blood are submitted on SF 518 (Blood Transfusion). Except in emergencies, requests are sent to the blood bank section of the laboratory the day before the transfusion is to be given. Requests in triplicate for each 500 ml. of blood required are initiated and signed by the medical officer. One copy is retained in the laboratory and two copies are returned to the ward with the requested unit of blood. Both of these copies remain with the blood pack unit at all times until the transfusion has been completed. The individual responsible for setting up the unit and administering the blood must compare information on the blood pack label with information on SF 518. After the transfusion, the medical officer completes all required entries; returns one copy, together with the used blood pack unit, to the laboratory, and files one copy in the patient's clinical record.

b. Identification of the Recipient. Proper identification of the patient to be transfused is of utmost importance. A specimen of the recipient's blood is identified by the person collecting this blood specimen and certification of this is made on SF 518 at the time of collection. The tube containing the blood must be identified with a firmly attached label. The recipient blood sample accompanies the requisition for blood; it is this sample that is crossmatched against available donor blood of corresponding type before the donor blood is released from the blood bank issue room to the using agency. Time must be allowed laboratory personnel for this essential step in identification. The minimal time required from the time the SF 518 is submitted until the time the blood is ready for release to the using agency is approximately 1½ hour.

c. Care of Blood Received by the Using Agency. The laboratory notifies the using agency when the required blood may be obtained. A standard plastic blood pack is used by military blood banks. This blood pack is refrigerated until issued; one unit at a time is released unless the medical officer has specified that two or more units are to be used simultaneously or in rapid sequence. Certain special precautions must be observed:

(1) A blood pack must be carried carefully; it must not be shaken or agitated in any way.

(2) Blood should be administered as it is obtained from the laboratory. If for some reason it cannot be administered, it should be returned immediately to the blood bank, providing it has not been unsealed. Blood should not be permitted to remain on a ward, unused, at room temperature.

(3) Storage of blood in refrigerators not directly under the supervision of blood bank personnel is not recommended; therefore, it is not good practice to place blood for future use in a ward service refrigerator. On ward units with a special requirement for having blood on hand, a special refrigerator is installed, and this refrigerator is monitored by blood bank personnel.

(4) Blood is not warmed before administration. EXCEPTION: It may be warmed for special cases such as for infants or debilitated patients.

d. Emergency Use of Group O Blood. Requisitioning and using group O, Rh negative, blood without regard for the recipient's grouping and typing (universal donor transfusions) is used as a lifesaving measure in conditions where there is massive hemorrhage with attendant shock. In these conditions, life is in immediate danger, and delay occasioned for purposes of typing and crossmatching would in all probability result in death. The chance of untoward reactions resulting from a group O transfusion is weighed against the immediate danger to life from hemorrhage and shock—this is a matter of medical judgment. Under combat conditions, group O blood has been administered to casualties without grouping or crossmatching. However, special precautions are followed. *For example,* when a patient has received a transfusion of group O blood in excess of 4 units and requires subsequent transfusion within a period of 2 weeks, he again receives group O blood, regardless of his heredity group. Even in these emergency situations when time is of vital importance, time must be taken to confirm that it is group O, Rh negative, blood being transfused. Blood bank personnel are responsible for the confirmation of grouping and typing of group O, Rh negative blood, for use in such an emergency before its release from the blood bank. Using agency personnel are responsible for (1) checking the information on the blood pack label to confirm that type O blood has been supplied before starting the transfusion and (2) for recording this information in the clinical record.

EQUIPMENT

Blood, as ordered, with SF 518 attached to the blood pack
Blood recipient set, disposable type[1]
IV tray[2]
Needle, size 18 or larger p.r.n.
IV standard

PROCEDURE

NOTE

> The medical officer does the venipuncture, starts the transfusion and regulates the initial flow of blood. The medical specialist assists with preparation and observation of both the equipment and the patient receiving the transfusion.

1. Take and record the TPR.
2. If authorized to assemble recipient set (fig. 5–46) to the plastic blood pack, check the information on SF 518 with the information on the blood pack jointly with the medical officer before breaking the seal on the blood pack. Do not break seals and assemble the transfusion unit until all is in readiness for the venipuncture.

To Assemble Recipient Set to Plastic Blood Pack

(Steps are illustrated in figs. 5–47 and 5–48)

1. Mix the plasma and cells thoroughly by inverting the blood pack at least 12 times.
2. Loosen the cover on the inlet device of the recipient set but do not remove it. (To loosen the cover, push it in toward the flange (collar) of the coupler and twist it.)
3. Grasp the tabs of the outlet port on the blood pack, pull them apart, and fold them back to expose the sterile outlet tube.
4. Hold the blood pack with the thumb and forefinger over the folded tabs.
5. Remove the cover from the coupler and insert the spike end of the coupler into the outlet tube (fig. 5–47). Twist it all the way up to the collar, puncturing the plastic diaphragm of the port.
6. Fill the recipient tubing completely to the needle point with blood. (Manual pressure is used for this maneuver as no airvent is used with the plastic pack.)
    a. Place flow-control clamp loosely over the lower end of the plastic recipient tubing.
    b. Remove the needle adapter cover (push in and twist). If set does not include a needle,

---

[1] The recipient set always has a filter chamber. Blood (or plasma) is never given with a set not designed for blood transfusion.

[2] For blood transfusion, a surgical skin preparation solution such as betadine may be specified instead of alcohol or other conventional antiseptics.

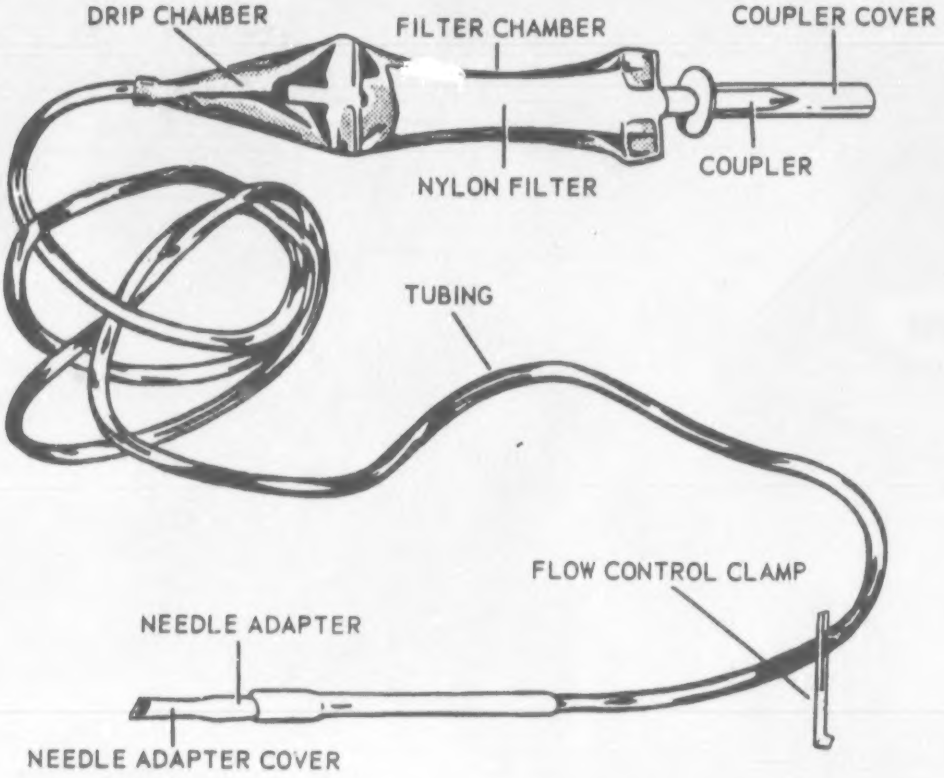

DRIP CHAMBER
FILTER CHAMBER
COUPLER COVER
COUPLER
NYLON FILTER
TUBING
FLOW CONTROL CLAMP
NEEDLE ADAPTER
NEEDLE ADAPTER COVER

Figure 5–46. Blood recipient set.

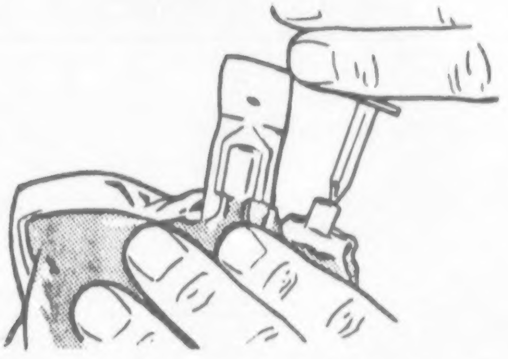


Figure 5–47. Inserting coupler into outlet tube.

place sterile needle of designated size on adapter.

CAUTION

Do not contaminate needle.

c. Hold the recipient set above the pack, with the needle adapter end above the drip chamber.

d. Squeeze the pack to fill the filter chamber with blood (fig. 5–48 Ⓕ).

e. Close the control clamp on the plastic tubing.

f. Suspend the pack on the IV standard in inverted position.

g. Lower the recipient tubing.

h. Squeeze the drip chamber, located below the filter chamber, gently to fill about ¼ with blood.

i. Release the flow-control clamp.

j. Fill tubing to needle point.

k. Reapply clamp. The set is now ready for use by the medical officer.

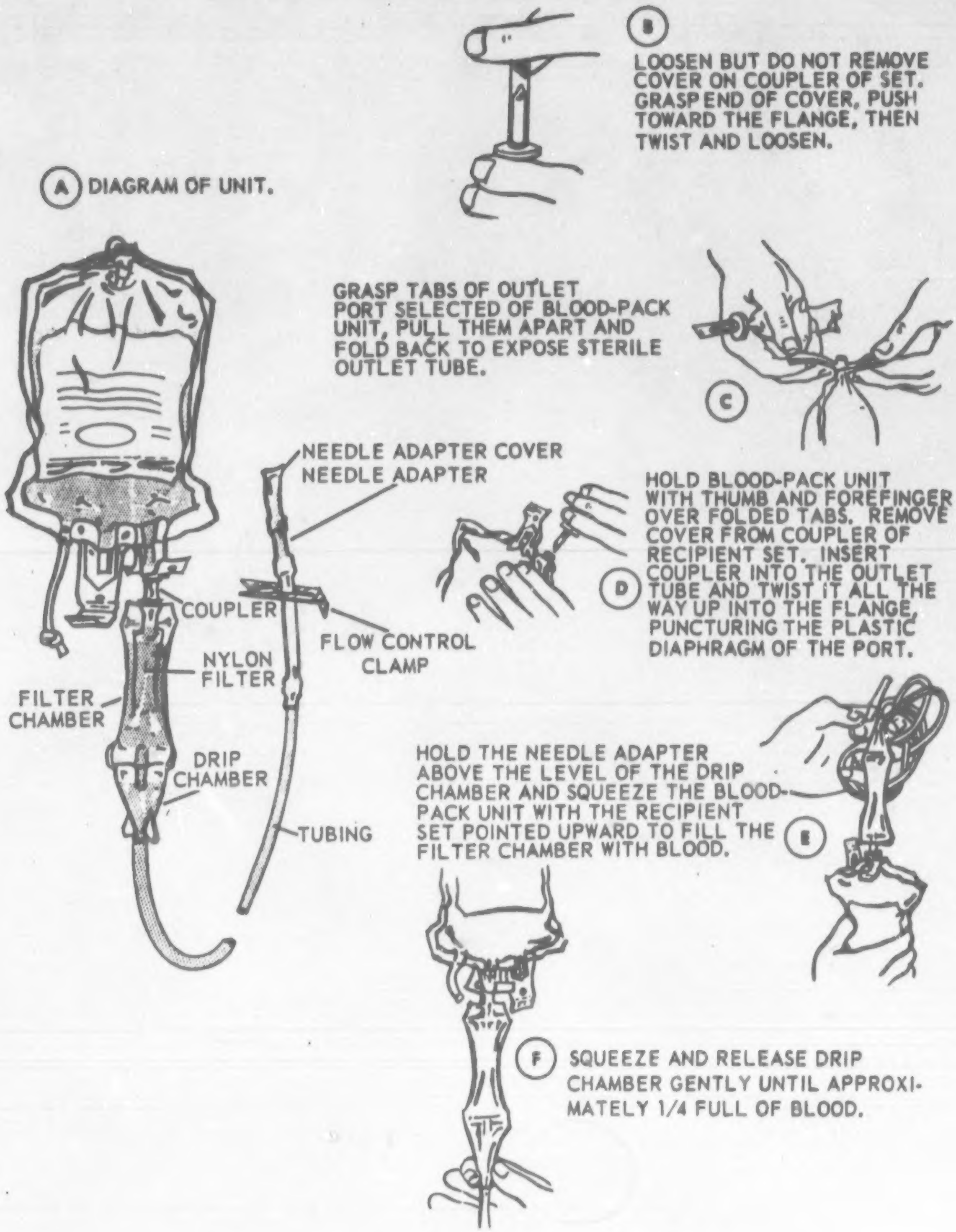
7. Assist with venipuncture procedure (para 5–60).

8. Remain with the patient. Constantly observe the rate of blood flow and watch for infiltration and for any signs of transfusion reaction.

9. Take and record TPR every hour for 4 hours.

Observations During Transfusion

1. *Rate of blood flow.* The medical officer regulates the initial blood flow and continues close observation of the patient and the blood flow. In general, blood is started at an initial slow



(A) DIAGRAM OF UNIT.

NEEDLE ADAPTER COVER
NEEDLE ADAPTER
COUPLER
FLOW CONTROL CLAMP
NYLON FILTER
FILTER CHAMBER
DRIP CHAMBER
TUBING

(B) LOOSEN BUT DO NOT REMOVE COVER ON COUPLER OF SET. GRASP END OF COVER, PUSH TOWARD THE FLANGE, THEN TWIST AND LOOSEN.

(C) GRASP TABS OF OUTLET PORT SELECTED OF BLOOD-PACK UNIT, PULL THEM APART AND FOLD BACK TO EXPOSE STERILE OUTLET TUBE.

(D) HOLD BLOOD-PACK UNIT WITH THUMB AND FOREFINGER OVER FOLDED TABS. REMOVE COVER FROM COUPLER OF RECIPIENT SET. INSERT COUPLER INTO THE OUTLET TUBE AND TWIST IT ALL THE WAY UP INTO THE FLANGE, PUNCTURING THE PLASTIC DIAPHRAGM OF THE PORT.

(E) HOLD THE NEEDLE ADAPTER ABOVE THE LEVEL OF THE DRIP CHAMBER AND SQUEEZE THE BLOOD-PACK UNIT WITH THE RECIPIENT SET POINTED UPWARD TO FILL THE FILTER CHAMBER WITH BLOOD.

(F) SQUEEZE AND RELEASE DRIP CHAMBER GENTLY UNTIL APPROXIMATELY 1/4 FULL OF BLOOD.

Figure 5-48. Preparation of plastic unit for transfusion.

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rate and increased after the first 20 minutes to finish the transfusion of 1 unit of blood in approximately 45 minutes. (In an emergency, blood can be administered very rapidly, at a rate of 50–75 ml. per minute.)

2. *Transfusion reactions.* There is a calculated risk with every blood transfusion, and there are complications which may cause undesirable or even fatal reactions. One of the most dreaded is the hemolytic reaction. Because hemolytic reaction is so serious and can occur after the transfusion of as little as 25 ml. of blood, a competent individual must observe the recipient constantly during the administration of blood and continue observations for several hours after transfusion is completed. The first rule to remember in any suspected reaction is: discontinue the transfusion. In general, the steps taken are summarized in table 5–3.

5–63. Administration of Oxygen

a. General. Oxygen is essential to life. It cannot be stored in the body, and the supply must be constant and in sufficient amount to sustain body cells. Normally, the 21-percent concentration of oxygen in inspired air is adequate for body needs. However, after any severe disturbance in the respiratory or circulatory systems, hypoxia (oxygen deficiency) can occur. Oxygen therapy is indicated in the treatment of hypoxia; it is the administration of air containing a higher concentration of oxygen than is contained in ordinary air. The medical officer orders oxygen therapy and decides the method of administration and the length of time it is to be continued. Nursing personnel have responsibilities for recognizing early signs of developing oxygen deficiency; reporting signs at once; knowing how to get oxygen to the patient quickly, safely and efficiently; and caring for the patient receiving oxygen. Problems arise in the nursing care of a patient receiving oxygen therapy, and ways must be devised to give care so that there is minimal interruption in the administration of oxygen, the patient's energy is conserved, and maximum rest is provided.

b. Special Nursing Attention. The patient requiring oxygen therapy by any method always requires special nursing attention. The following points must be emphasized:

(1) Regardless of the method used to administer oxygen, adequate explanation to the patient is desirable to allay his anxiety; the fearful, tense patient will not obtain maximum benefit from oxygen therapy. However, detailed explanations are inappropriate in an acute emergency; the best reassurance in such a situation is to have the personnel work efficiently and quietly with no confusion.

(2) The patient must have an open airway. The oxygen-enriched air administered in oxygen therapy must reach lung tissues. If the patient cannot breathe effectively, he needs respiration assistance as well as oxygen.

(3) When needed, oxygen-enriched air must be supplied quickly. Body tissues die when deprived of oxygen, and brain cells can be damaged beyond recovery in 3 to 7 minutes. Personnel must know how to use the equipment, and the equipment must be available for emergencies.

(4) The oxygen supplied must be adequate to be effective. Oxygen-enriched air should contain concentrations of at least 35- to 45-percent oxygen. To overcome even early symptoms of hypoxia, concentrations up to 100 percent may be necessary.

(5) Oxygen therapy must be continued until relief from oxygen deficiency is obtained.

c. Signs and Symptoms of Oxygen Deficiency. The time element in observing signs and symptoms of oxygen deficiency is extremely important. If early symptoms of hypoxia are not detected, reported, and treated effectively, the patient may progress to anoxia (complete lack of oxygen intake), when it may be too late to get any benefit from oxygen administration.

(1) Early signs and symptoms include anxiety; increasing restlessness; increasing pulse and respiratory rates; yawning; and headache. These indicate mild hypoxia.

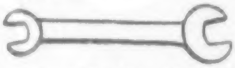
(2) Some of the later signs and symptoms are increasing dyspnea, with gasping respirations (air hunger); cyanosis, especially of the lips and nailbeds; mental confusion and agitation; dilated pupils; and unconsciousness. These indicate severe hypoxia progressing to anoxia.

d. Precautions in Use of Oxygen. The chief danger in using oxygen is FIRE. The presence of oxygen in increased concentrations makes all materials more combustible. Things that burn slowly in ordinary air will burn violently and even explosively in the presence of oxygen. However, fires are caused by carelessness or ignorance and should never occur. There is no reason to be afraid of using oxygen apparatus if the precautions in table 5–4 are taken.

Table 5-3. Transfusion Reactions

A If Reaction of Recipient (Patient) Is	B And Time Reaction Occurs Is	C Type of Reaction Is	D Probably Caused By	Rule Degree of Danger	Rule Do This	Rule Take To Laboratory
Severe chill Complains of pain in the lumbar region Complains of nausea Rapid elevation of temperature	After only 25 ml. of blood have been given	Hemoloytic (red blood cell) destruction	Transfusion of incompatible red cells; the donor erythrocytes are destroyed by antibodies present in the plasma of the recipient	Extremely serious, can be fatal	1. Stop the transfusion. 2. Tell the nurse or doctor immediately. 3. Treat for shock. 4. Notify lab service and take to the laboratory → 5. Initiate an I & O record as recipient's kidneys may be damaged.	1. The unused blood and recipient set. 2. A 10 ml. specimen of venous blood from the recipient. 3. A post-transfusion urine specimen.
From: Mild chilliness with no temperature To: Severe chills, temperature up to over 103 degrees Flushed appearance Complains of severe headaches	Most frequently within 30 - 60 minutes after transfusion is completed	Pyrogenic (fever producing)	Contaminants introduced into blood or IV equipment	Serious ↘	1. Stop the transfusion. 2. Tell the nurse or doctor immediately. 3. Treat for shock, if present. 4. Notify lab service and take to the laboratory. ↗ 5. Initiate an I & O record as recipient's kidneys may be damaged.	
Urticaria (hives) Edema of the face and lips Edema of the larynx with serious difficulty in breathing May have wheezing respirations with difficulty in expiration	During transfusion or within 1 or 2 hours after completion	Allergic (hyper-sensitivity)	Response by the recipient to allergic substances in the donor's blood	Serious ↗		

Table 5-4. Precautions in the Use of Oxygen

DO—	DO NOT—
Post "OXYGEN—NO SMCKING" signs on equipment, in storage areas, and at entrances to a ward or room where oxygen is in use, so that anyone approaching the area can see them.	• **Do not use oxygen in the presence of any flame or spark.** • **Do not use electric devices which spark, such as signal buttons, razors, toothbrushes, heating pads, and hot plates.** • **Do not use oil or grease on any part of oxygen equipment. Do not adjust any equipment with greasy hands. (Oil or grease in contact with oxygen under pressure can ignite violently.)**
Warn the patient and all visitors not to smoke.	• **Do not smoke.**
Remove all matches, cigarettes, and ash trays from the bedside cabinet.	
Search the patient's pajama pocket and bed linen to insure that he keeps no item listed above.	
Eliminate sources of static electricity:	
• **Use cotton blankets.**	• **Do not use wool blankets or bed clothing.**
• **Handle bed linen by lifting and placing carefully to eliminate friction.**	
• **Use cotton and cotton flannel pajamas for patients.**	
Use the standard open end gas cylinder wrench, nonsparking type, for cylinder attachments. 	• **Do not use the familiar monkey wrench. It is considered hazardous.**
Protect the cylinder valve with the cylinder cap when storing.	• **Do not drop the cylinder. The weight is a hazard, and damage to the valve creates additional hazards.**
Secure the heavy cylinder in an upright position to a stationary support with a strap; when transporting a cylinder, strap it to the carrier.	• **Do not place cylinders next to steampipes or radiators. (External heat can cause excessive rise in the cylinder; although a safety valve release pressure to prevent explosion, the sudden escape of oxygen into a confined space creates a hazardous atmosphere.)**
tain full cylinders from the central controlled storage area.	• **Do not store excess cylinders in the ward area.**

e. Oxygen Supply. Oxygen is supplied in portable cylinders or from a piped oxygen system. Regardless of the source of supply an essential step in setting up equipment to administer oxygen is attaching the oxygen regulator. (Different models of regulators are used and the user must become familiar with those available, but each will have certain essential features.)

PORTABLE CYLINDER OXYGEN REGULATORS

Connecting the Cylinder Regulator

The regulator used for cylinder oxygen reduces the high pressure in the cylinder to a low pressure that is safe; it insures a steady, even flow of oxygen; and it provides a means for adjusting the rate of flow. The oxygen regulator (fig. 5-49) has two gages: the high pressure gage shows the amount of oxygen in the cylinder and is calibrated in pounds pressure (a full tank registers approximately 2200 pounds); the flowmeter gage shows the rate of oxygen flow and is calibrated in liters per minute.

Procedure

Step 1. Check the cylinder label and look for the green color code to insure it contains oxygen and not some other medical gas or compressed air. Unscrew and remove the heavy metal valve cap. "Crack the cylinder" by opening and quickly closing the cylinder valve wheel to blow out any dust from the cylinder outlet; stand to one side of the outlet, and be prepared for an alarming sound of gas escaping.

Step 2. Close the flow-adjusting valve of the regulator by turning the handle to loosen it. Insert the regulator inlet into the cylinder valve outlet, supporting the regulator in an upright position. Secure the nut by turning with the fingers and tightening with the wrench.

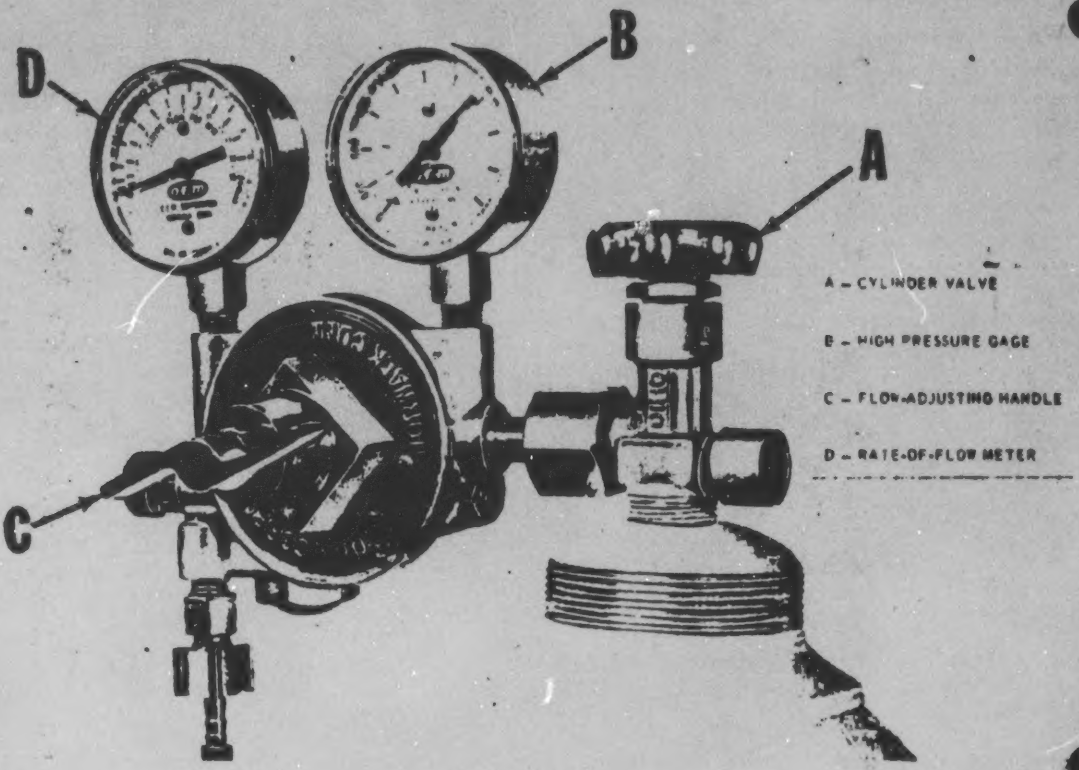
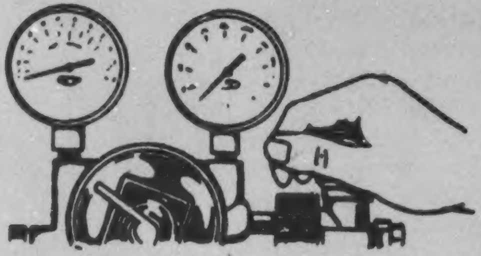

D
B
A
C
A – CYLINDER VALVE
B – HIGH PRESSURE GAGE
C – FLOW-ADJUSTING HANDLE
D – RATE-OF-FLOW METER

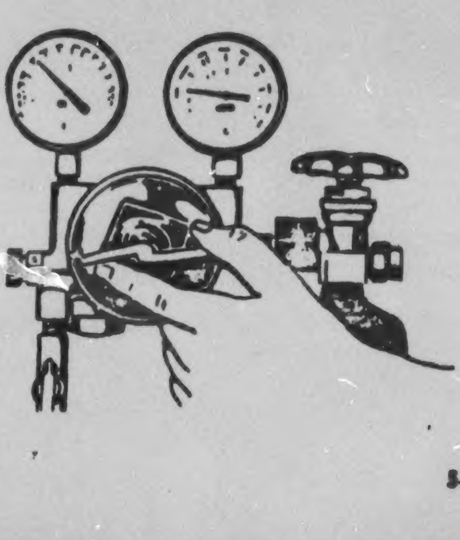
Figure 5–49. Oxygen cylinder with attachments.



Step 3. Check to see if the flow-adjusting valve on the regulator is closed. Then open the cylinder valve wheel cautiously and very slowly. Watch the needle on the contents gage.

NOTE

If the gage registers less than 100 pounds pressure, plan to replace the cylinder. Label the rejected cylinder "Empty."



Step 4. Turn the flow-adjusting valve handle to tighten, and open it to the desired rate of flow in liters per minute.

Disconnecting the Cylinder Regulator

1. Note contents remaining in the cylinder by reading the contents gage. Write this on a piece of adhesive tape, with time and date.

NOTE

If contents are 100 pounds or less, consider the cylinder empty, and so label it.

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2. Stick the tape on the cylinder in a prominent spot before detaching the regulator.
3. Close the cylinder valve.
   Wait until both gages register zero.
5. Loosen the flow-adjusting valve handle.
6. With the wrench, loosen the inlet nut and remove the regulator from the cylinder.
7. Recap the cylinder, taking care when screwing on the heavy cap not to cross the screw threads. Use both hands.
8. Return cylinder to authorized storage point.

Estimating Usage Rate of Cylinder Oxygen

Estimate the rate of use by the following method: Multiply the pressure remaining in the cylinder by 3; then divide the number obtained by the number of liters being administered to find the approximate number of minutes of oxygen flow available. *EXAMPLE:* If 300 pounds of pressure are registered on the contents gage and oxygen is being administered at 10 liters per minute, what is the approximate number of minutes of oxygen flow available?

$$300 \times 3 = 900$$

$$\frac{900}{10} = 90$$

SWER: 90 minutes usage remains at 10 liters per minute.

PIPED OUTLET OXYGEN REGULATOR

The regulator used for a piped oxygen system is a flowmeter; pressure-reducing regulators are not required and the flowmeter has only one gage. The flowmeter is plugged into a wall outlet valve when oxygen is to be administered. To attach the flowmeter, follow the procedure outlined at the local station. Each system has distinctive features, but most require the removal of a dust plug and the use of an outlet key. Areas equipped with piped oxygen should also have a cylinder set up on a carrier to transport oxygen in an emergency to a patient located distant from available outlets.

1. *Emergency shutoff valve.* Each ward or clinic area where piped oxygen is distributed has an emergency shutoff valve to be used in case of fire or major leaks in the outlet valves. A valve key is kept in a prominent and accessible place. You must know how to use the valve key and the emergency shutoff valve.
2. *Visual alarm system.* A red-light signal flashes n if the oxygen pressure in the main supply line drops. If this occurs, turn off all outlets and substitute cylinder oxygen when continuous therapy is required. Notify the appropriate maintenance section by phone.

5-64. Use of Humidifiers

The humidifier (fig. 5-50) is used for adding moisture to oxygen, to prevent drying and irritation of mucous membranes. The humidifier apparatus is a glass or plastic jar with a screw cap and an adapter for attachment to the oxygen regulator or flowmeter. Humidifiers supplied in Army Medical Department equipment sets are called "Insufflator, oxygen, nasal." If a 2-bottle insufflator is used, the bottle attached to the oxygen regulator is filled half full with water while the second bottle is left empty and serves as a trap for excess moisture. A tube called a diffuser bubbles the oxygen through the water.

PROCEDURE

1. Fill the humidifier only to the water line or no more than half full if no line is visible.
2. Check the water level when in use and refill p.r.n. The diffuser tube should extend about 1 inch under water. Use distilled water unless manufacturer's directions specify that tap water can be used.
3. Always use a humidifier with a nasal catheter.

NOTE

> Humidifiers may be used with masks when high concentrations are continued for several hours. Ordinarily, enough moisture remains in the mask to humidify oxygen given in concentrations of less than 70 percent (obtained with an oxygen flow of 3 to 4 liters per minute, providing the mask fits properly).

4. After use, disconnect the humidifier.
5. Wash and sanitize the component parts, following manufacturer's instructions.
6. Refill half full with fresh water. Proper care of the humidifier will prevent corrosion of the metal parts, as well as being a safety factor for the patient.

5-65. Administration of Oxygen by Face Mask

Several kinds of masks are in common use. The type discussed is included as a component part of the inhalator set authorized in Army Medical Department equipment lists. The nasal mask fits over the patient's nose and permits him to eat,

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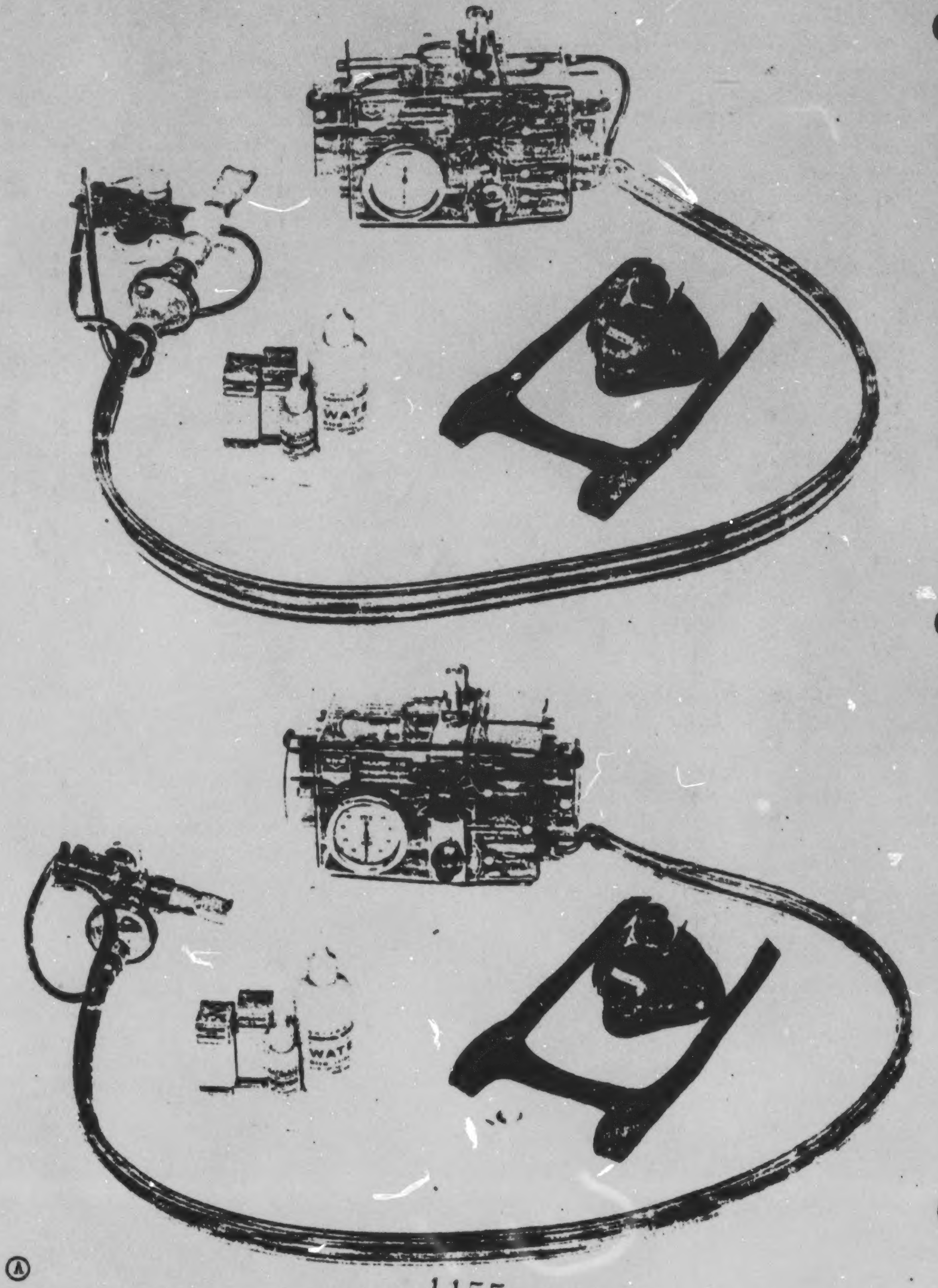

Figure 5–50. Respirator with nebulizer.

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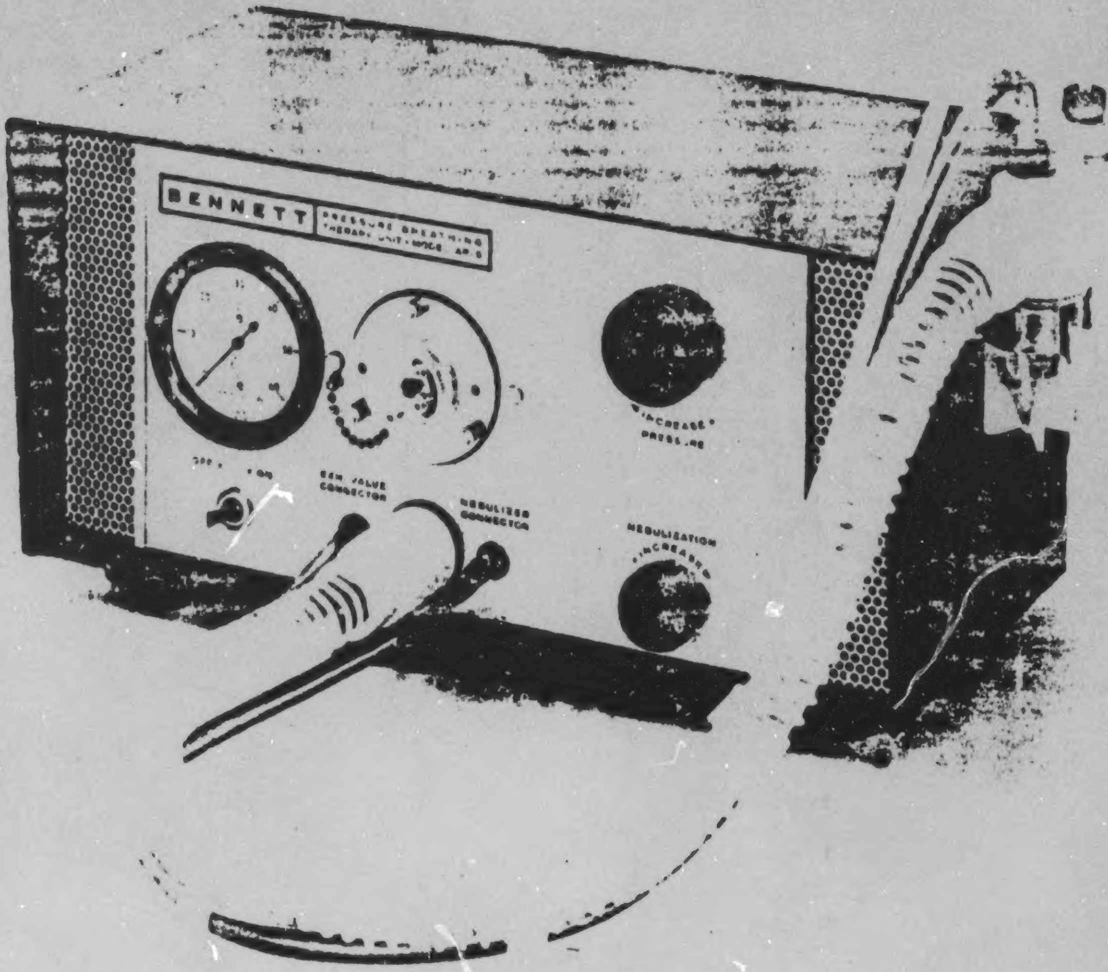


Figure 5-50—Continued.

drink, and talk while receiving oxygen; it is not appropriate for unconscious patients or those who cannot cooperate and keep their mouths closed to control air dilution. The oronasal mask covers both nose and mouth and is the type most commonly used in emergency situations because high concentrations of oxygen can be delivered rapidly. The oronasal mask illustrated in figure 5-51 is a partial rebreathing type. Oxygen flows into the bag, and exhaled air is partially discharged through the flutter valve in the facepiece.

EQUIPMENT

Oxygen cylinder with regulator connected (or piped oxygen with flowmeter)
Latex rubber tubing, 4 to 5 feet in length
Rubber band
Safety pin
Open end wrench

PROCEDURE

1. Observe all safety precautions (table 5-4).
2. Turn on cylinder valve to check contents before bringing equipment to the patient.
3. Connect rubber tubing to regulator and to mask tubing adaptor.
4. Strap the cylinder to the bedpost, placing it away from a radiator. If used on a cylinder carrier, place it in an upright position away from a radiator.
5. Turn on the flow-adjusting valve to an initial high rate of flow (8 to 12 liters a minute).
6. Tell patient the mask will be adjusted to his face to help him breathe more easily.
7. Have him exhale while applying the mask.
8. Fit the mask securely over his nose and mouth, and adjust the headband snugly, but not tightly, passing it just above his ears.

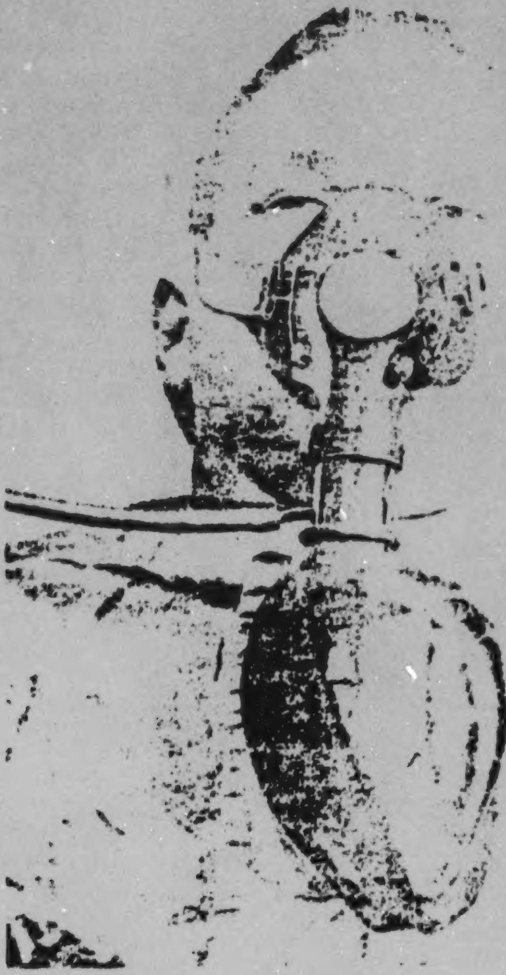


Figure 5–51. Administration of oxygen by face mask.

Adjust the fit so that there is no apparent leakage of air. Slightly dampened cotton strips may be placed at the mask edges to obtain a proper fit.

9. Stay with him, encouraging regular inhalation and exhalation. Observe him. Watch the expression in his eyes. As he appears less apprehensive, reduce the liter flow to the prescribed rate, usually 6 to 8 liters per minute. The pulse rate should be slower and of better quality, and cyanosis of the nailbeds should disappear as the oxygen deficiency is relieved.
10. Watch the breathing bag. Toward the end of each inhalation, the bag should deflate; with each exhalation, the bag should expand. For oxygen concentrations of 90 to 95 percent, adjust the liter flow at a sufficiently high rate (8 to 10 liters per minute) so that the bag never collapses completely even at the maximum depth of inspiration.
11. Loop the elastic band around the tubing, and pin the loop to the foundation bedsheet. Be sure the tubing is long enough to allow the patient to move about without tension on the tubing. Check to make sure the tubing is not pinched or kinked.

CONTINUING CARE OF THE PATIENT

1. Continue close observation of the patient an the equipment.

1157

NOTE

[illegible] It may be necessary to remain with the patient constantly.

2. At least every 2 hours, remove the mask (unless contraindicated) and wash and dry the patient's face.
3. Offer fluids, if permitted. Give mouth care.
4. Dry the interior of the mask. Apply powder, if used, very lightly to the patient's face and reapply the mask.

CARE OF THE MASK AFTER USE

1. Wash the mask and rebreathing bag, disconnecting the parts.
2. Rinse in prescribed antiseptic solution and air dry.
3. If kept on the ward, place the clean, reassembled mask in a labeled paper bag.
4. Staple the bag shut and return it to the prescribed storage area.

5–66. Administration of Oxygen by Nasal Catheter

Oxygen administered by nasal catheter is used when the concentration required is less than 50 percent. A disadvantage is that the catheter irritates the nasal mucous membranes, although the patient may tolerate a catheter better than a snugly fitted mask. The oxygen catheter is made of thin-walled latex or plastic, with a rounded tip and multiple perforations near the tip. Sizes vary from 8 to 14; a size 12 or 14 is suitable for an adult, the criteria being to select the largest size that can be inserted comfortably into a nostril. The humidifier is always used with nasal oxygen since the catheter directs oxygen flow to the oropharynx and bypasses the normal moistening action of the nasal mucous membrane.

EQUIPMENT

Oxygen cylinder with regulator connected (or piped oxygen with flowmeter connected)
Humidifier, half full of clean water
Rubber tubing, 4 to 5 feet
Glass of water
Tongue depressor
Flashlight
Paper tissues
Lubricant (check with the medical officer on choice of lubricant)
Adhesive tape, ½ inch wide
Rubber band
Safety pin
Open end wrench

PROCEDURE

1. Observe all safety precautions (table 5–4).
2. Check oxygen regulator attachment. Turn on cylinder valve to check oxygen content. Do this before bringing equipment to patient. Leave this valve on.
3. Attach humidifier to regulator.
4. Attach tubing to humidifier outlet.
5. Secure cylinder to bedpost with a strap, placing it away from the radiator, or place the cylinder carrier in an upright position, away from the radiator.
6. Select the appropriate size catheter. To determine the approximate distance for insertion in the oropharynx, measure the distance from the lobe of the patient's ear to the tip of his nose with the catheter, and mark this point on the catheter with a small piece of adhesive.
7. Connect the oxygen tubing from the humidifier to the catheter.
8. Lubricate the catheter sparingly, using recommended lubricant (water soluble) and a tissue.
9. Open the flow valve and set the oxygen flow rate at 3 liters per minute.
10. Hold the perforated end of the catheter in the glass of water for a few seconds and observe bubble flow to be sure perforations are not plugged with lubricant.
11. Hold the catheter at the tape mark, and rotate it to find the droop of the catheter.
12. With oxygen flowing at a low rate and catheter in position of lowest droop, insert the catheter into the patient's nostril. Elevate the tip of the nose, and pass the catheter slowly along the floor of the nasal cavity to the tape mark (fig. 5–52 Ⓐ). The patient will usually swallow at this point.
13. Using tongue blade and flashlight, inspect the patient's oropharynx. The tip of the catheter should be approximately at the tip of the patient's uvula (fig. 5–52 Ⓑ). At the proper level, the patient should not be swallowing continuously; if he does so, withdraw the catheter slightly to relieve this reflex.
14. Tape the catheter in place. Use a 3-inch strip of ½-inch adhesive, split halfway up its length; wrap one narrow split end around the catheter and anchor the two free ends to the patient's nose or face. There should be no pressure of the catheter against the nostril or

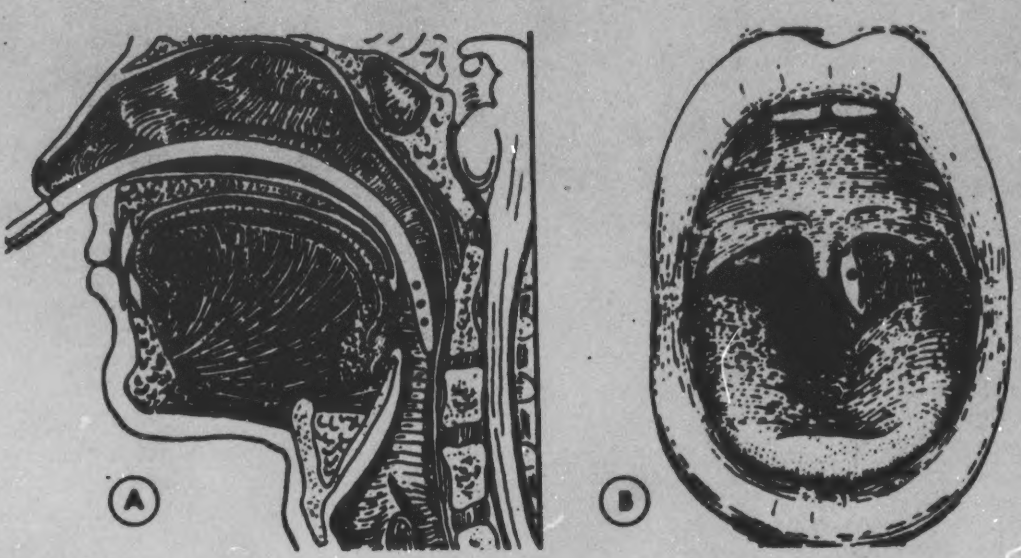


Figure 5–52. Administering oxygen by nasal catheter.

nasal septum. Tape the catheter again to the side of the face near the top of the ear.

NOTE

Avoid sticking adhesive on bearded area.

15. Loop the elastic band around the tubing and pin it to the bed. Allow enough slack for free movement, with no tension on the catheter. Check to see that the tubing is not kinked.
16. Regulate the oxygen flow to the prescribed rate. Below is an approximation of oxygen concentration by oropharyngeal catheter:

Flow (liter)	*Approximate concentration*
4–5	30 percent
6–7	40 percent
8–9	50 percent

CONTINUING PATIENT CARE

1. Watch for signs of relief from hypoxia. If patient continues to be restless and dyspneic, report this stat. Check oxygen flow and position of catheter. Make sure tubing is not pinched or kinked.
2. Watch particularly for excessive swallowing—the patient's stomach can become greatly distended from swallowing air and oxygen, and if this occurs oxygen therapy by catheter is discontinued.
3. Give oral and nasal hygiene care every 2 hours.
4. Give fluids frequently, if permitted.

NOTE

The medical officer may order nasal oxygen discontinued while food and fluids are swallowed.

5. Change the catheter at least every 12 hours or more frequently if nasal secretions ma[illegible]t necessary. Use alternate nostril each time the catheter is changed. Remove all adhesive marks from the patient's skin with a solvent such as acetone, and wash off the solvent with warm water.
6. Remove tape and tape marks from latex catheters; flush through with cold water and return to CMS. Discard used plastic catheters.

5–67. Administration of Oxygen by Tent

The oxygen tent unit in common use for adults consists of an electrically operated cooling and air-oxygen circulation unit and a plastic canopy. The most important advantage of the tent method is the comfort provided the patient, who is encouraged to relax and rest in the cool humidified atmosphere within the tent. The chief disadvantages of the tent method are the difficulty in maintaining the prescribed concentration of oxygen and the dependency upon electricity for the motor unit. Oxygen concentrations up to 55 percent can be maintained, providing all procedures are followed carefully and the motor unit operates satisfactorily.

CAUTION

If the electricity fails, remove

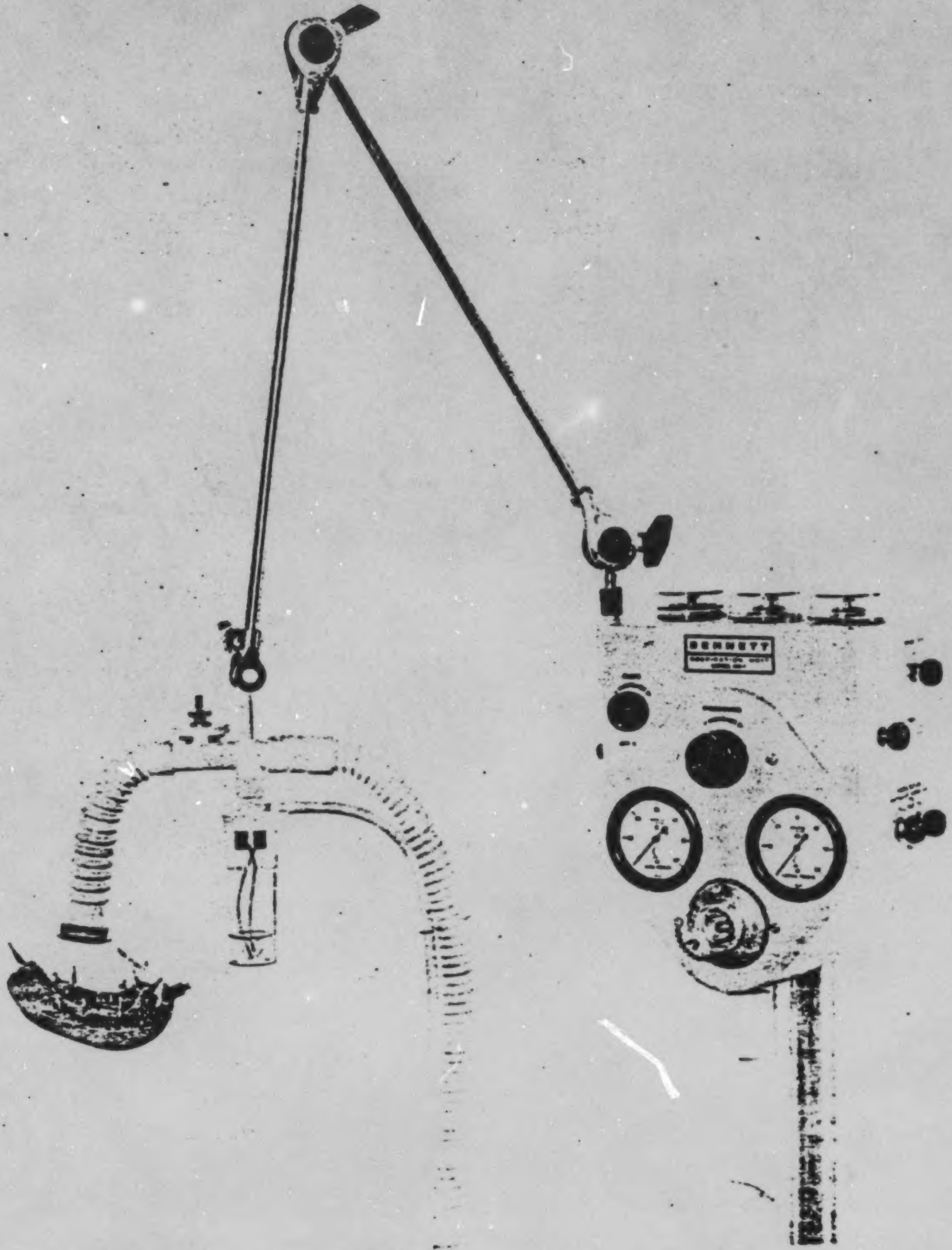


Figure 5-56. Intermittent positive pressure (Bennett valve PR-1) apparatus.

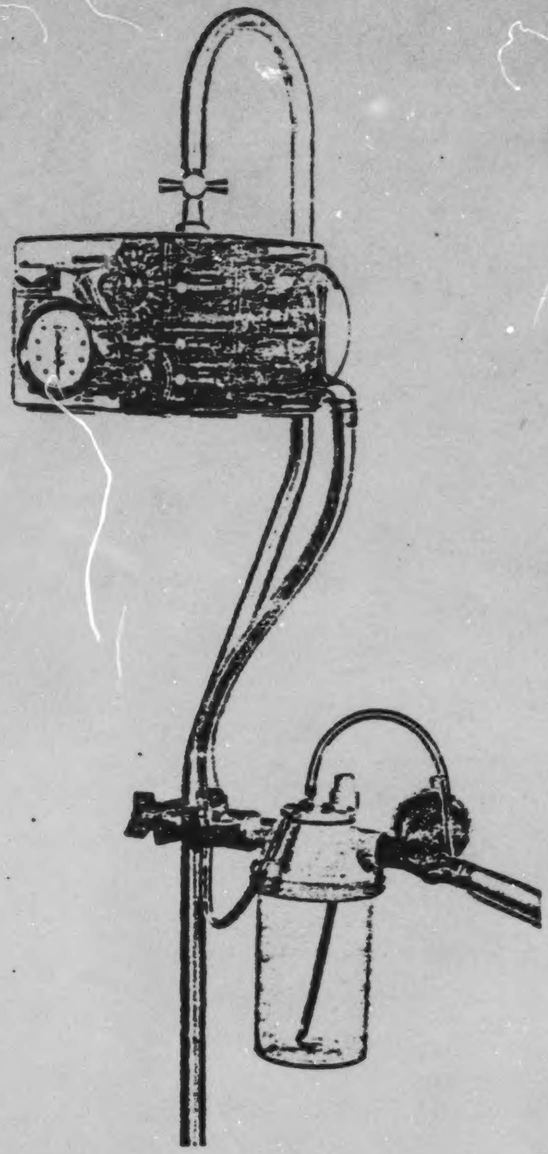


Figure 5-57. Other respirator models (Bird).

mucus, vomitus, blood, or other material obstructing the airway. Suctioning by catheter is necessary when a patient for any reason is unable to cough or otherwise clear the upper air passageway effectively and there is danger that he will aspirate the accumulated material into the lower passageway (trachea, bronchi, and lungs). Clean equipment is used since the throat, mouth, and nostrils are not sterile areas.

EQUIPMENT

Suction apparatus (mobile or portable aspirator, or in-wall suction unit)
Rubber tubing
Y-tube connector (glass or plastic)
Whistle-tip catheter (size 14 or 16 French for adults, size 10 or 12 for infants and children)
Glass of water
Mouth wedge
Receptacle for catheter: use either a forceps jar, 7½ inch; an IV bottle; a plastic bag; or a folded hand towel, pinned to form a bag
Electric extension cord p.r.n.
Gauze, 4-inch by 4-inch squares

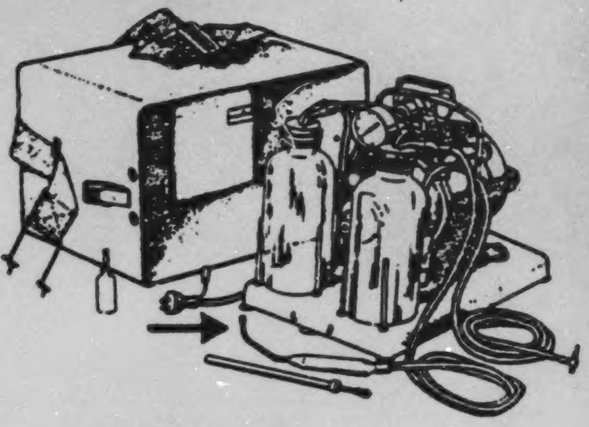
PREPARATION FOR SUCTION PROCEDURE

1. Set up equipment at the bedside. Place the portable electric-powered aspirator (fig. 5-58) on a bedside stand or table adjacent to the basic unit table. An extension cord may be needed to reach an electrical wall outlet.
2. Attach the catheter to the suction tubing with the Y-tube connector.

NOTE

> The suction tubing is attached to the drainage bottle. The bottle marked "Vacuum" is connected to the motor.

a. *Whistle-tip catheter.* The large tip opening is more effective for suctioning thick secretions than sidewall perforations in a round-tip catheter. If a whistle-tip catheter is not available, one can be improvised by cutting a rubber round tip on a slant, smoothing the sharp edges by flaming with



NOTE: REMOVE METAL SUCTION TIP
(INDICATED BY ARROW) AND
SUBSTITUTE Y-CONNECTOR
AND WHISTLE-TIP CATHETER.

Figure 5-58. Portable field suction machine.

1. Use the zipper openings in the canopy to hand food or drink to the patient, to bathe his face, or to give oral hygiene.
2. When bathing the patient and making the bed, draw the canopy up around his neck and tuck the free sides under the pillow.

NOTE

In some hospitals the procedure is to remove the tent and substitute mask or catheter therapy during this period.

3. Give care in progressive steps when conservation of the patient's energy is a major consideration. For example, give a partial bath, allow a rest period, and then change the bed linen. The patient may not be able to tolerate a complete bed bath and linen change on a daily basis.
4. Take temperature by rectum when the patient is in the tent.
5. Check the wall thermometer inside the tent at regular intervals. Maintain it at the desired level by changing the temperature control.

CAUTION

Adjust this control only when the motor is running.

6. Use the oxygen analyzer at prescribed intervals, usually every 3 or 4 hours, and always 30 minutes after replacing the tent following a major care procedure.
7. When oxygen therapy is discontinued, taper off the treatment by removing the patient from the tent for short intervals of about 15 to 20 minutes. If his pulse and respiratory rates do not increase and his lips and nailbeds do not become cyanosed, lengthen the intervals.

CAUTION

Never taper off treatment by decreasing the amount of oxygen into the tent, as carbon dioxide would build up rapidly. The canopy may be loosened, however, to create leakage deliberately. If this is done, be sure personnel are aware of the reason for the loosening; otherwise, the immediate reaction will be to tuck it in securely.

CARING FOR EQUIPMENT AFTER USE

If entire unit is not returned to CMS, follow these steps on the ward:

1. If canopy is to be reused, wash, rinse, and hang it to air dry.
2. Wipe off the cabinet and all fittings with prescribed germicide.
3. Drain and dry the drip pan to prevent rust.
4. Return the unit to a central storage area.

5-68. Intermittent Positive Pressure Breathing Apparatus

a. The intermittent positive pressure breathing (IPPB) apparatus is used to assist breathing in many acute and chronic pulmonary conditions. Its use is prescribed by the doctor when the patient must be assisted to breathe more effectively; to introduce prescribed broncho dilating, mucolytic (mucus liquefying), or antibiotic drugs into lung tissues (aerosol therapy); and to promote bronchial drainage. In IPPB treatment, respiration is induced by mild positive pressure to inflate the lungs during inspiration, followed by passive expiration. A special valve in the apparatus controls the intermittent inhalation positive pressure and the release of pressure for exhalation; the cycling of the valve is controlled by the patient's respiratory rate and rhythm. When an IPPB apparatus is used for emergency resuscitation in respiratory failure, the valve must be adjusted manually for automatic cycling.

b. Several types of IPPB apparatus are in common use in many Army Medical Department hospitals, but no one type is a standard item. Some models, such as the ones illustrated (figs. 5-55 and 5-56), are pedestal or mobile units for attachment to a wall outlet; others are cylinder-mounted (attached to an oxygen cylinder). Figure 5-57 shows other IPPB apparatus (Bird).

c. Although compressed oxygen is usually used in operating an IPPB unit, some units operate with an air compressor unit or a compressed air cylinder; this method of operation is prescribed by the doctor when oxygen therapy is not advisable. Local nursing procedure manuals must be consulted for operation of the unit in use; local policy determines the training and supervisory requirements for personnel authorized to use the equipment. An illustrated comprehensive instruction manual for the type of apparatus in use is provided by the manufacturer and must be consulted.

5-69. Pharyngeal Suctioning (to Clear Airway)

The throat, mouth, or nose is suctioned to remove

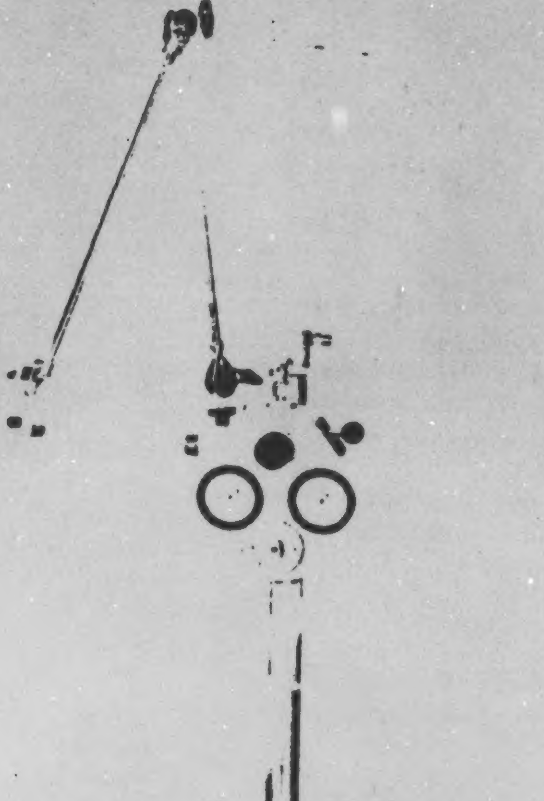


Figure 5–55. Intermittent positive pressure (Bennett valve PV–3P) apparatus.

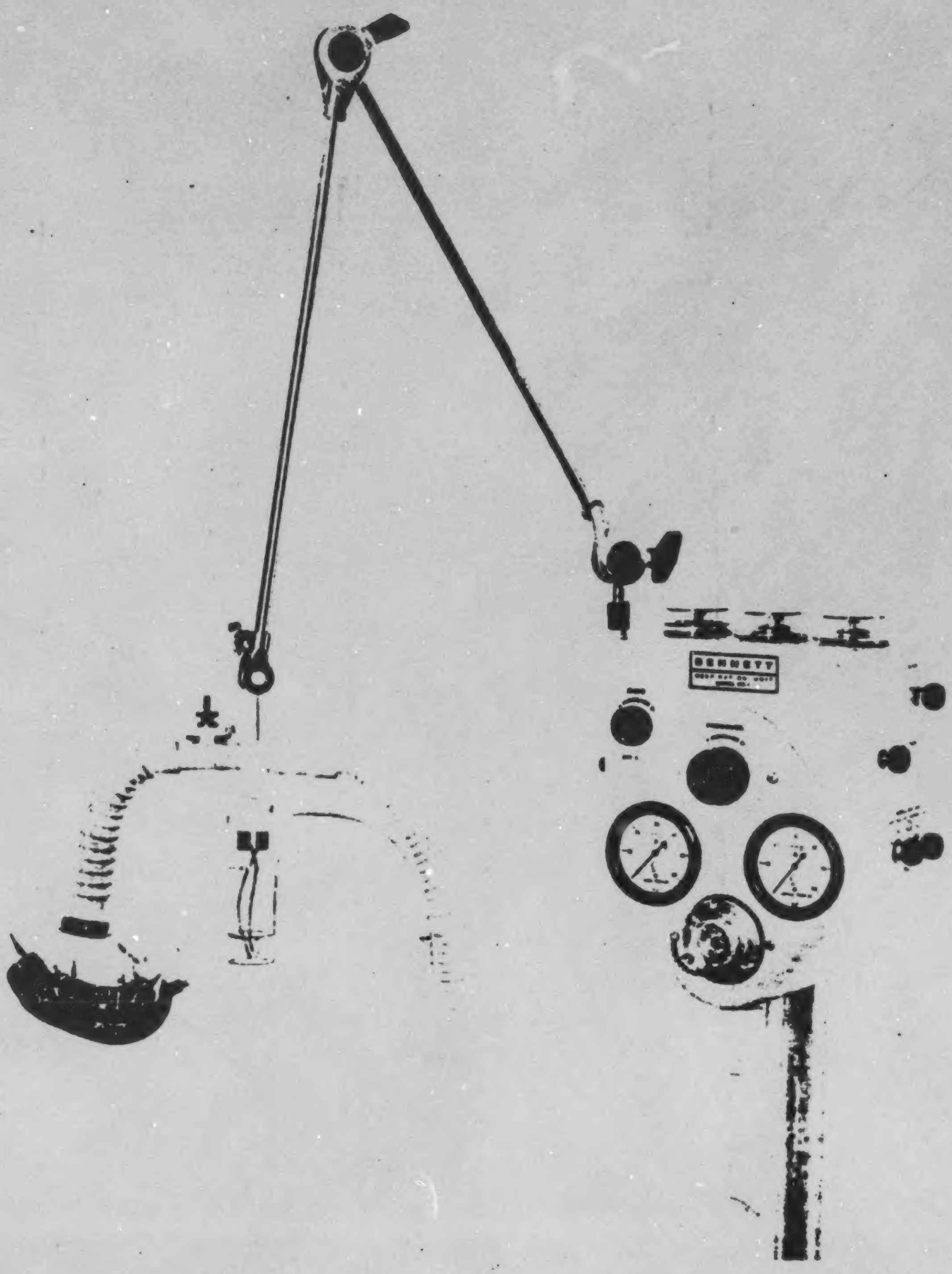


Figure 5-56. Intermittent positive pressure (Bennett valve PR-1) apparatus.

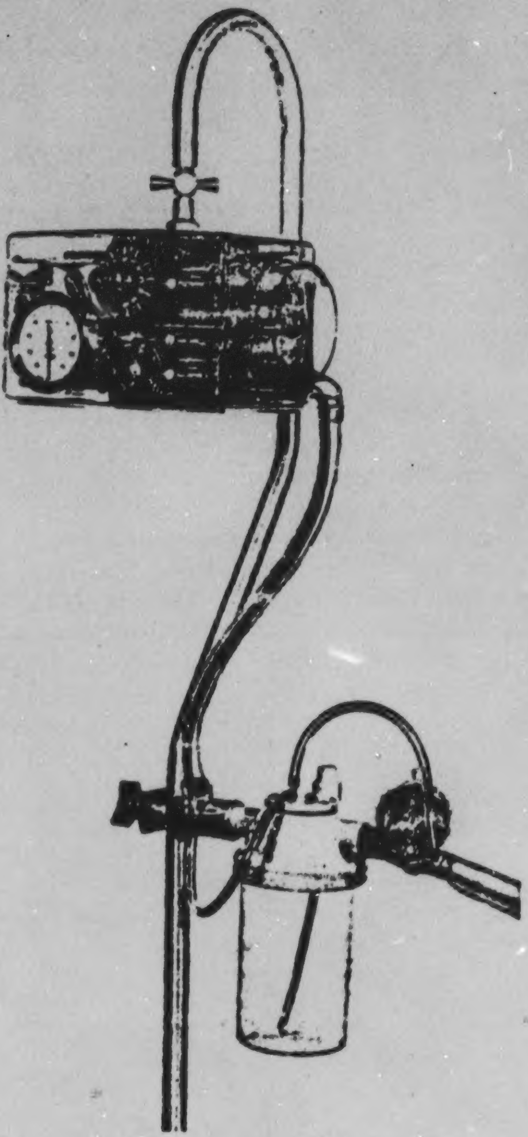


Figure 5-57. Other respirator models (Bird).

mucus, vomitus, blood, or other material obstructing the airway. Suctioning by catheter is necessary when a patient for any reason is unable to cough or otherwise clear the upper air passageway effectively and there is danger that he will aspirate the accumulated material into the lower passageway (trachea, bronchi, and lungs). Clean equipment is used since the throat, mouth, and nostrils are not sterile areas.

EQUIPMENT

Suction apparatus (mobile or portable aspirator, or in-wall suction unit)
Rubber tubing
Y-tube connector (glass or plastic)
Whistle-tip catheter (size 14 or 16 French for adults, size 10 or 12 for infants and children)
Glass of water
Mouth wedge
Receptacle for catheter: use either a forceps jar, 7½ inch; an IV bottle; a plastic bag; or a folded hand towel, pinned to form a bag
Electric extension cord p.r.n.
Gauze, 4-inch by 4-inch squares

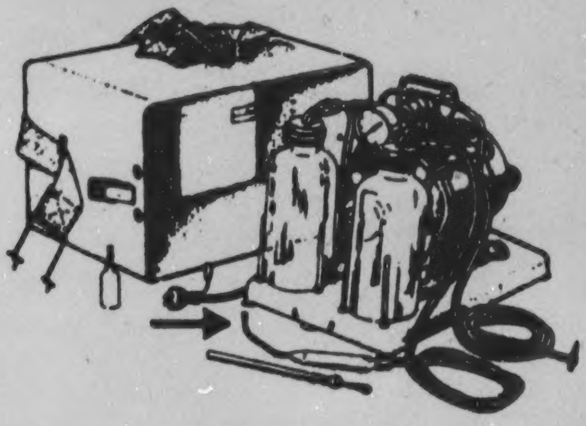
PREPARATION FOR SUCTION PROCEDURE

1. Set up equipment at the bedside. Place the portable electric-powered aspirator (fig. 5-58) on a bedside stand or table adjacent to the basic unit table. An extension cord may be needed to reach an electrical wall outlet.
2. Attach the catheter to the suction tubing with the Y-tube connector.

NOTE

The suction tubing is attached to the drainage bottle. The bottle marked "Vacuum" is connected to the motor.

a. *Whistle-tip catheter.* The large tip opening is more effective for suctioning thick secretions than sidewall perforations in a round-tip catheter. If a whistle-tip catheter is not available, one can be improvised by cutting a rubber round tip on a slant, smoothing the sharp edges by flaming with



NOTE: REMOVE METAL SUCTION TIP (INDICATED BY ARROW) AND SUBSTITUTE Y-CONNECTOR AND WHISTLE-TIP CATHETER.

Figure 5-58. Portable field suction machine.

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a match and rubbing the softened edges between the fingers.

b. *Y-tube connector.* Applying or removing the thumb at the open end of the Y-tube provides safer suction control than pinching off and releasing a catheter attached to a straight connector.

3. Turn on the suction apparatus.

a. *Wall suction.* Turn on regulating valve. Note position of float valve in the vacuum jar. It may be necessary to unscrew the jar from the metal cap and tap the float valve so that it moves freely on its metal stem—if it is stuck, the suction unit will not work. Use care to avoid crossing the threads in replacing the jar.

b. *Portable aspirator.* Locate the switch (different models have different switch controls in different locations). Check the electrical outlet plug-in connection.

4. Test suction by inserting the free end of the catheter in the glass of water and closing the free end of the Y-tube with the thumb.

5. Place catheter, tested and ready for use, in the available receptacle. If a forceps jar (or IV bottle) is used, place this on the table next to the glass of water. If a plastic bag (or folded and pinned towel) is used, hang this at the side of the table. A catheter receptacle must always be used to prevent the catheter from dangling free or falling to the floor. If the catheter falls to the floor, replace it with a clean catheter stat.

SUCTION PROCEDURE

1. Turn on suction.
2. Test patency (nonobstruction) of catheter and functioning of suction by suctioning water through the catheter.
3. Apply suction to the patient's throat.

a. *Through the mouth:*

(1) With suction diverted from the catheter (free end of Y-tube open), insert the catheter gently toward the back of his throat. (To estimate distance to posterior pharynx, measure on the catheter the distance from the nose tip to earlobe and add 2 inches.)

(2) Place thumb over Y-tube and rotate the catheter to suction secretions. CAUTION: Do NOT push the catheter in and out against the wall of the throat as this will injure the mucous membrane. Suction for 5 seconds or less. Prolonged aspiration may produce a drop in the arterial oxygen concentration.

(3) Withdraw the catheter and clear it by suctioning water through it.

(4) Use the padded mouth wedge when necessary to hold the patient's back teeth apart and control the tongue. (Request an assistant to hold the mouth wedge as necessary. If the patient's mouth cannot be opened or held open, insert the catheter through the nose.)

b. *Through the nose:*

(1) Moisten catheter in water.

(2) With suction diverted, insert the catheter gently through a nostril to the back of the throat. This will stimulate the cough reflex and serve to make the suctioning procedure more effective.

(3) Place thumb over Y-tube and rotate the catheter to suction secretions.

(4) With suction diverted, withdraw catheter.

4. Clear catheter by suctioning water through it. Repeat mouth or nose insertion as necessary to clear throat.

CARE OF CATHETER

1. After each use, clear catheter with clean water.
2. Use moistened gauze pad to wipe adherent secretions from surface of catheter.
3. Use water for cleansing unless a prescribed, nonirritating, detergent-germicide solution (such as a 1:5000 benzethonium chloride (Phemoral) aqueous solution) has been ordered by the medical officer.
4. Place the cleansed catheter in the clean catheter receptacle after each use.
5. Exchange the catheter and the catheter receptacle at least once daily, replacing with clean equipment.

CARE OF DRAINAGE BOTTLE

1. Empty drainage bottle frequently. Always empty it when it becomes two-thirds full in order to prevent back flow into the vacuum bottle. (The ball float mechanism in the in-wall unit cuts off suction when the drainage level is at its maximum depth.)
2. Rinse the bottle in cold water. Wash thoroughly.

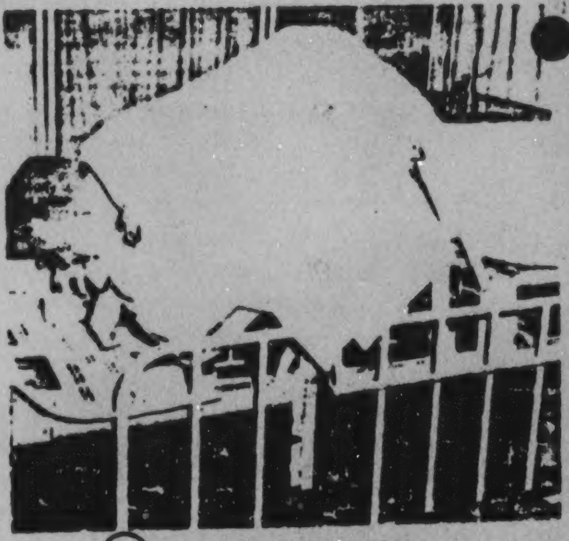
3. Leave clean cold water to a depth of 1 inch in bottle (or fill to line indicated).
4. Check drainage tubing and connections to insure airtight seal. Replace cracked or dried drainage tubing p.r.n.

5-70. Postural Drainage

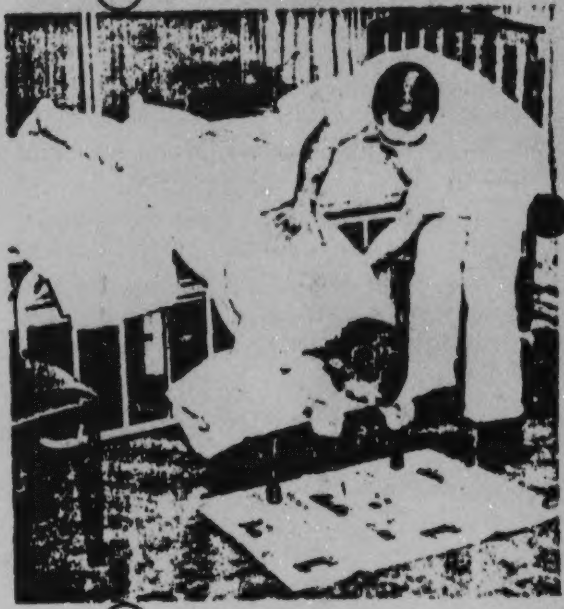
In postural drainage the patient is placed in a semijackknife position to promote drainage of secretions from the bronchi and the lungs. The secretions move by gravity to the back of the throat, where they then can be expectorated.

PROCEDURE

1. The duration and the frequency of the treatment are prescribed by the medical officer. The treatment is usually started with 5 minutes of positioning, increasing the time to the prescribed length as the patient tolerates it. This may be 15 minutes, 4 times daily.
2. Plan to do postural drainage treatments before meals to decrease the possibility of regurgitation.
3. Unless otherwise ordered, use one of the following positions:
   a. *Gatch bed positioning.*
      (1) Elevate the knee gatch to the highest point.
      (2) Position the patient over the elevated mattress with his head to the foot of the bed (fig. 5-59 Ⓐ).
      (3) Place a board covered by newspaper on the bedsprings at the foot of the bed.
      (4) Place on the newspaper one or more plastic or paper sputum cups, a box of tissues, and a paper bag.
      (5) Instruct the patient to breathe deeply, to cough vigorously, and to cover his nose and mouth with several thicknesses of tissues while coughing, to help prevent spread of bacteria.
      (6) Have him turn from side to side while deep breathing and coughing to help loosen secretions.
      (7) Instruct him to use a second cup for expectoration when the one in use is half full. This is to avoid spilling.
      (8) Tell him to place used tissues in the bag but to leave the cups so that you can see their contents.
      (9) Watch patient for dizziness and fatigue.



Ⓐ GATCH BED POSITIONING



Ⓑ CROSS-BED POSITIONING

Figure 5-59. Position of the patient, postural drainage.

      (10) After prescribed time, remove equipment and assist the patient to normal position. Tell him to lie flat for a few minutes.
      (11) Provide for patient handwashing and mouth care. If patient is ambulatory, assist him out of bed for self-care after he has lain flat for a few minutes.
      (12) Measure approximate amount of ex-

pectorated secretions by pouring water into a clean cup to the same level as contents of used cup, and then measure amount of water. Handle used cups with a clean paper towel, covering them and placing in the paper bag for disposal.

(13) Dispose of bag containing sputum cups and tissues according to local policy. Do not leave bag or cups in patient's room or at the bedside. They should be placed directly into a covered waste container for incineration.

(14) Record on Nursing Notes: time, duration, amount and character of secretions, and patient's tolerance.

b. *Cross-bed and footstool positioning.*

(1) Use this method only if gatch bed is not available. It is more hazardous and some patients cannot tolerate it.

(2) Place a footstool at the side of the bed, with a pillow for padding.

(3) Place sputum cups on newspapers on the floor.

(4) Assist the patient to jackknife himself across the bed, with his forearms resting on the footstool and his head near the floor (fig. 5-59 Ⓑ). Be sure he feels relatively secure and that he is strong enough to brace himself.

(5) Now follow steps 5 through 14 in (*a*) above.

5-71. Steam Vaporizer Inhalation

A steam vaporizer is used to provide moist heat to relieve congestion in upper respiratory passages. It may also be used to provide additional moisture in inhaled air for a patient with a tracheotomy. A commercial standard model steam vaporizer is illustrated in figure 5-60 Ⓐ, a room humidifier, cool-vapor inhalator in 5-60 Ⓑ.

GENERAL PRECAUTIONS— COMMERCIAL MODEL

1. Prevent burning of the patient. Keep vapor nozzle opening 12 to 18 inches away from him.
2. Check the water level at regular and frequent intervals to prevent boiling dry.
3. Close doors and windows in treatment area to confine steam vapor and increase humidity.
4. Prevent the patient from becoming chilled during and after treatment. Remove any damp bedding. Keep patient confined to warm, draft free area for at least 1 hour after treatment.

USE OF STANDARD STEAM MODEL

1. Obtain vaporizer from CMS.
2. Follow directions on unit for removing gallon jug. Fill bottle to level marked and invert into the reservoir.
3. Place medication, if ordered, in metal cup at base of unit, not in the jug. An aromatic compound such as tincture of benzoin is sometimes ordered.
4. Plug in cord and test switch before taking unit to bedside. Steam vapor should be visible within a few minutes.
5. At the bedside, place the vaporizer on the floor at the proper distance from the bed. Plug it in

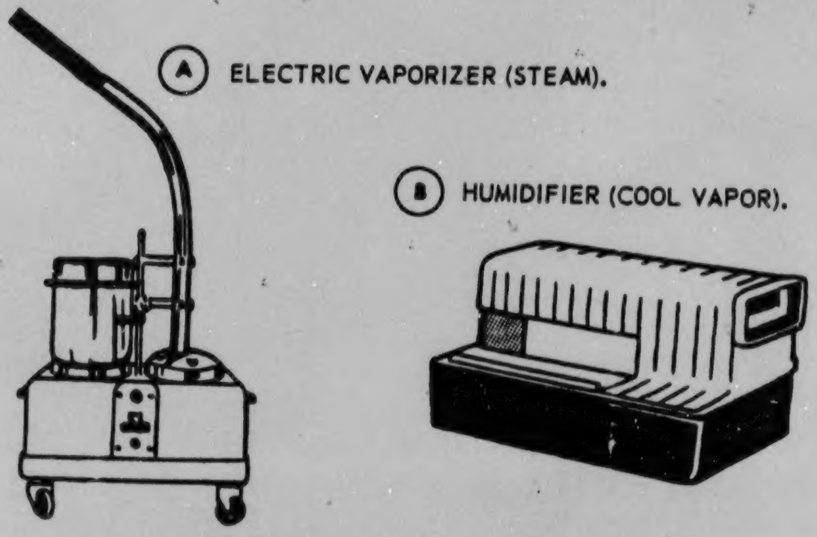


Figure 5-60. Steam vaporizers.

and turn on the swtich. Direct the flexible arm toward the patient's face.

6. Place a bath towel under his head to absorb condensation.
7. To increase effectiveness of vapor concentration, make a croup tent:
   a. Place two IV stands on either side of the bed, just forward of the patient's head and shoulders.
   b. Drape a cotton blanket over the stands, inclosing head-end of bed and partially inclosing patient. Secure blanket with safety pins.
   c. Direct the vaporizer spout into the tent upward and from the side.
8. Care for equipment.
   a. Turn off the switch and disconnect the plug.
   b. Empty the jug and the reservoir. Dry the metal parts.
   c. Use ether or alcohol to clean out any residue in the medication cup.
   d. Return unit to CMS.

STEAM INHALATION (IMPROVISED)

Equipment

Washbasin
Pitcher or No 10 tin can
Paper bag (size to fit over pitcher)
Hot plate
Bath towel
Medication, as ordered

Procedure

CAUTION

This method can be used only for a responsive patient who can sit upright on a chair. He should be reminded not to touch the hot container. In setting up and demonstrating this procedure, the medical specialist must make certain that the patient will not spill the boiling hot water on himself.

1. Cut hole in bottom of paper bag to fit over the mouth and nose of the patient.
2. Using the hot plate, heat water in pitcher or can to boiling. Add medication, if prescribed.
3. Place container of boiling hot water in the washbasin. Use folded bath towel to protect hand.
4. Place basin on table at the bedside. The basin must be on a flat secure surface, away from the edge of the table.
5. Fit paper bag over container.
6. Assist patient to seat himself at the table.
7. Have patient place his mouth and nose over hole in paper bag.
8. Drape bath towel over patient's head and container.
9. Instruct patient to open his mouth and take deep breaths to inhale steam, and to continue inhalation until steam vapor has subsided.

Section VII. THERAPEUTIC PROCEDURES—GASTROINTESTINAL TRACT

5–72. Cleansing Enema

The cleansing (evacuative) enema is the injection of fluid into the rectum to stimulate defecation. It is ordered if the number and character of stools indicate improper elimination, if the lower intestinal tract is abnormally distended by flatus (gas), or if the rectum or lower bowel must be empty of feces for an examination or an operation. Whatever the purpose, the enema must be given with proper technique to be effective and to lessen discomfort and the chance of possible injury to the patient. Basic points to be emphasized include—

a. Solution and Amount. The medical officer specifies the type of solution; he may or may not specify the amount. The usual amount required for an adult is 500 to 1000 ml. If the order is for "enemas until clear," the procedure is repeated until no fecal return is obtained. The specialist should always check with the nurse or doctor if after the second enema the returns are not clear; the patient may be exhausted by a third enema in succession. Solutions commonly used include—

(1) Plain tap water.

(2) Saline solution. This is a normal saline solution prepared for external use; it may be obtained from CMS or prepared on the ward. The proportion of sodium chloride to water when prepared on the ward is—

(*a*) When using sodium chloride tablets: 2 sodium chloride USP, 2.25 Gm. tablets to 500 ml. tap water.

(*b*) When using table salt: 1 level teaspoon salt to 1 pint (500 ml.) water.

(3) Soap solution. This must be a weak soap solution prepared with a bland, white toilet soap to avoid excessive irritation of the mucous membrane of the rectum and colon. The prepared solution should have only a slightly milky appearance, with no suds.

(4) Commercially prepared enema unit. The standard item available in AMEDD pharmacies contains sodium phosphate-sodium citrate in a 4½-ounce disposable injection unit. The advantages of this unit are its small volume, which lessens discomfort, and the ease of its administration. Instructions for use are imprinted on the container of solution.

b. Temperature. The recommended temperature of the enema solution is 105°, measured by a bath thermometer. If this standard item is not available, the temperature should be tested by pouring a small amount over the inner surface of the wrist; it should feel just warm, not hot.

c. Pressure and Rate of Flow. The enema is administered at a slow rate and at low pressure. Both rate and pressure are regulated by the elevation of the irrigator and the size of the rectal tube. The recommended elevation is no more than 18 inches above the level of the anus (fig. 5-61), measured from the surface level of the solution. The standard rectal tube is size 30 French; a smaller size tube may be indicated. Excessive pressure and rate of flow can damage tissue, cause discomfort, and defeat the purpose of the procedure since the patient will probably expel the solution before an adequate amount is given.

d. Position of the Patient. For best results, the patient should be lying down in a left, lateral (Sims) position. This favors relaxation of the abdomen and a desired flow of the solution into the left lower (Sigmoid) colon. After the enema is administered, the bed patient is turned on his back and placed on a bedpan; an ambulatory patient is assisted out of bed and escorted to the nearest toilet.

ROUTINE EQUIPMENT

Tray containing:
  Irrigator, 2 qt
  Tubing, clamp, and glass or plastic connector
  Rectal tube, 30 Fr
  Water-soluble lubricant (surgical lubricant)
  Toilet tissue
  Emesis basin
  Rubber treatment sheet
  Drawsheet cover (or plastic-backed paper pad)
Bedpan with paper cover (for bed patients)
Solution, as ordered
Bath thermometer
Irrigating stand p.r.n.

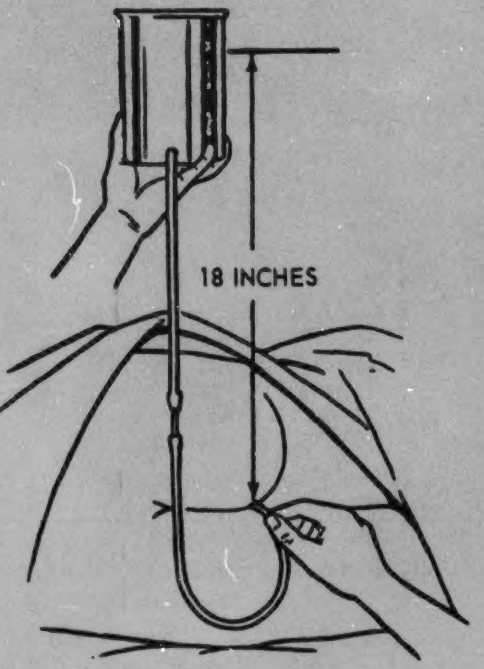


Figure 5-61. Administering the cleansing enema.

ROUTINE PROCEDURE

NOTE

> The procedure described here does not require the stand; if one is available, it is convenient for suspending the irrigating can, thus leaving one hand free.

1. Prepare the equipment in the utility room. (The irrigator and rectal tube are usually obtained from CMS.)
2. Connect the tubing to the irrigator. Clamp off the tubing.
3. Check temperature of prepared solution. If a separate pitcher or other container is used for solution preparation, pour required amount into the irrigating can.

NOTE

> The capacity of the standard can is 2 quarts. Fill can approximately ½ for 1000 ml. of solution.

4. Place a liberal amount of lubricant on a piece of toilet tissue and wrap this around the tip of the rectal tube. Coil the clamped tubing on the tray.

5. Take the covered tray and bedpan (if a bed patient) to the patient's bedside.

6. Screen the patient and explain the procedure. (Assure the ambulatory paitent that he will be assisted to the toilet, and place his robe and slippers on the chair.) Lower the back rest, leaving one pillow under the patient's head. Remove or assist with the removal of pajama trousers. Place the protective sheet under the buttocks so that it protects the center and near side of the bed. Assist the patient to turn to left Sims position. Fold back the top covers to expose the buttocks only. Place the emesis basin on the protective sheet, convenient to use.

7. Expel air from the tubing: elevate the irrigator; holding the lubricated tip of the rectal tube over the emesis basin, release the clamp and allow a small amount of solution to run through; pinch the tubing and lower the irrigator.

NOTE

Hold the irrigator in the left hand, pinching off the tubing against the outlet with the thumb. Hold the rectal tube about 2 inches from the tip with the right hand.

8. With the back of the left hand, which is supporting the irrigator, raise the upper buttock to expose the anus. Tell the patient to breathe slowly through his mouth to relax the sphincter muscles.

9. Insert the rectal tube gently for about 4 inches. Hold the tube in place. Release the pinched tubing and elevate the irrigator approximately 18 inches above the anus. As the fluid enters the rectum, tell the patient to continue breathing slowly through his mouth.

10. If the patient complains of cramping, pinch off the tubing for a few seconds and lower the irrigator slightly. Continue at a lower pressure and slower rate.

11. Discontinue when just enough solution remains to cover the bottom of the irrigator. Pinch off and withdraw the rectal tube. Wrap the soiled end in a piece of tissue and place this end in the basin. Put the irrigator and the basin on the tray.

12. Turn the patient on his back and place him on the bedpan. Encourage him to retain [illegible] solution for several minutes. (Assist the ambulatory patient out of bed stat, and escort him, wearing robe and slippers, to the toilet. Instruct him not to flush the toilet until the enema return has been observed.) Elevate the back rest for a bed patient. Check the position of the bedpan; place the toilet paper and signal cord within reach before leaving the bedside.

CAUTION

Remain with weak and helpless patients.

13. Take tray to utility room. Rinse equipment in cold water. Use soap, water, and an applicator stick to clean the rectal tube opening.

14. Return to the patient with a basin of warm water. Remove and cover the bedpan. Assist the patient to cleanse himself with soap and water. Remove the treatment sheet, checking to make sure the bed is clean and dry. Replace the pajama trousers. Leave the patient clean, dry, and comfortable. Open a window, if possible, to air the area.

15. Check and note amount and character of the feces in the bedpan. If the contents are unusual, notify the nurse or doctor before discarding.

16. Clean and sanitize the bedpan. Wash, dry, and hang up the rubber treatment sheet to air. Place irrigator, tubing, and rectal tube at CMS collection point. Reset tray with clean equipment.

17. Record time, type of enema, color, consistency, and amount of feces in the Nursing Notes.

MODIFICATIONS

1. If the patient cannot be turned, use the dorsal recumbent position, elevating his hips by placing him on the bedpan before giving the enema. An assistant will be needed to separate and support the thighs of a helpless patient while the rectal tube is inserted and held in place.

2. If the patient can be turned but it is anticipated that he will be unable to retain the enema solution, use the left lateral position, providing in advance for some leakage by adequate protective coverage of the bed, plus [illegible] folded pad under the anus. Give the enema more slowly, with a smaller tube, with lower

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pressure. An improvised device to prevent the solution from running out as fast as it runs in consists of a rubber ball (about the size of a tennis ball) with 2 holes through which the rectal tube is passed. As the enema is given, the ball is pressed against the anus.

3. If the patient is unable to expel the enema or if only a small amount is returned, prepare to siphon back the retained solution. You will need for the siphoning procedure: rectal tube, lubricant, funnel, pitcher of warm tap water, and about 18 inches of tubing with connector.
   a. Position the patient as for the cleansing enema. Place chair protected with paper adjacent to the bed with an uncovered bedpan on the chair seat.
   b. Assemble funnel, tubing, and lubricated rectal tube. Pinch off the tubing, pour water into the funnel and clear tubing of air, pinching off the tubing again as soon as some water runs through.
   c. Insert the rectal tube. Hold funnel at 18-inch elevation; allow about half the water in the funnel to run slowly in; then lower the funnel and invert over the bedpan to allow siphonage return. Pinch tubing at funnel outlet before turning it upright to pour in additional water.
   d. Repeat siphoning until enema and fecal return is satisfactory.
   e. Place the patient on a clean bedpan p.r.n. after removing the rectal tube.

5-73. Retention Enema

The retention enema is the injection of a small amount of a prescribed solution into the rectum for absorption or for temporary retention. The procedure is similar to the cleansing enema except that lower pressure and a slower rate of flow is used to avoid stimulating an immediate bowel movement. If the solution ordered is a medication to produce a general systemic or a local effect, only personnel authorized to administer medications may give the retention enema. However, an oil retention enema to soften fecal matter and to aid in its expulsion is not ordinarily considered as administration of medication. It is this procedure which is discussed below.

EQUIPMENT

Retention enema tray containing:

Funnel, glass or plastic (the barrel of a 1-oz bulb syringe may be used)
Catheter, number 20 French, round tip
Graduate or pitcher, 500 ml.
Cottonseed oil
Lubricant
Toilet tissue
Small rubber sheet and cover
ABD pad

PROCEDURE

1. Pour required amount of oil (90 to 120 ml.) into the pitcher. Place the pitcher in a basin of hot water to warm the oil to about 100°.
2. Attach the catheter to the funnel. Lubricate the tip of the catheter, using a piece of tissue.
3. Prepare the patient, explaining that it will be important for him to lie on his side quietly for at least an hour following the procedure. Position him as for the cleansing enema (para 5-72).
4. Test temperature of oil against the wrist.

CAUTION

Do not insert bath thermometer into the oil as it will be impossible to clean.

The temperature should just be tepid to warm; if satisfactory, place the pitcher on the tray and take the tray to the patient; if too warm, cool at room temperature before administering.

5. Proceed as for the cleansing enema. Pinch off the catheter, pour oil into the funnel, and momentarily release the catheter to expel the air. Pinch off the catheter again.
6. Insert the pinched-off catheter very slowly and gently about 4 inches into the anus, holding the funnel in the left hand. Elevate the funnel not more than 6 inches above the anus

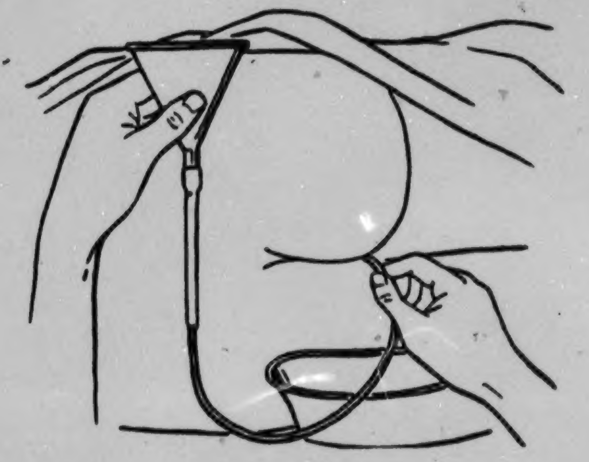

Figure 5-62. Administering the retention enema.

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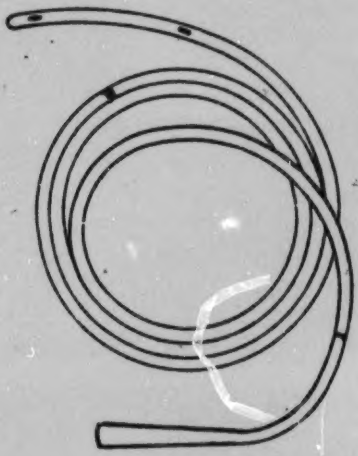
(fig. 5-62). Release the catheter. Give the oil very slowly.

7. Pinch off and withdraw the catheter.
8. If the patient has an urge to defecate, encourage him to breathe slowly through his mouth and apply gentle pressure against the anus with the ABD pad. Leave the pad against his buttocks.
9. Leave the patient in left lateral position and remind him to lie quietly for about 1 hour. Place signal cord within reach. Replace bed covering.
10. Wash equipment with hot soapy water, using friction to remove oil residue. Clean and reset tray.
11. Record time, type, and amount of oil given. Record 1 hour later if oil was retained, plus any subsequent bowel movement.

5–74. Fecal Impaction

Fecal impaction is the result of excessively hard, retained feces in the rectum. Fecal impaction may occur, especially when an immobilized, an elderly, an unconscious, or a paralyzed patient has improper fecal elimination. If cleansing enemas, properly administered, fail to give good results, an impaction can be suspected. An impaction is confirmed when the medical officer does a digital rectal examination using a lubricated glove. At the time of digital examination, the impacted feces are removed manually. This unpleasant procedure is usually followed by an order for an oil retention enema, cleansing enemas, and instructions for increased nursing vigilance. Good nursing care with attention to the patient's bowel pattern, diet, increased fluid intake, position changes, and encouragement of all possible activity are preventive measures for fecal impaction.



Levin tube

5–75. Gastrointestional Intubations and Related Procedures

Gastrointestinal intubation is the process of passing a tube through the nasopharynx or the oropharynx into the stomach or intestine. Intubation is done for one or more of the following purposes: To obtain specimens of stomach or duodenal intestinal contents for laboratory analysis; to lavage (wash out) the stomach; to gavage (tube feed) a patient; to provide for continuous drainage of fluids and gas to deflate the stomach and intestine by means of suction apparatus. This suction-drainage deflation procedure is referred to as gastrointestinal decompression.

a. Responsibility of the Medical Specialist. The intubation procedure is usually done by the medical officer. Under conditions specified by local hospital policy, the enlisted specialist may be authorized to intubate a patient. He is expected to know how to prepare the equipment, prepare the patient, assist the doctor as needed, and provide continued care of the intubated patient and equipment.

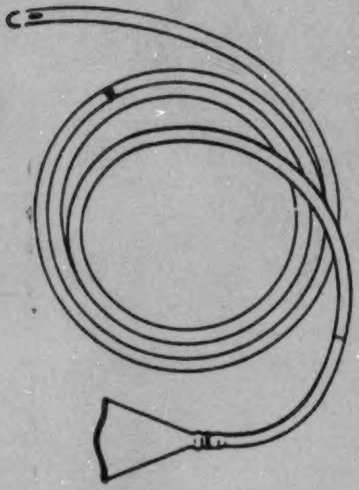
b. Types of Tubes. There are many different tubes with different names for different purposes. The tube required for a specific treatment is ordered by the doctor. Since gastrointestinal tubes are inserted into nonsterile body cavities, sterile technique is usually not required for insertion, although the tubes are sterilized before use. The medical specialist should be familiar with the general characteristics and uses of each; the different types are usually ordered by name, *for example:*

- *Levin tube.* This is a plastic or rubber soft-walled tube, available in sizes 12 French (small) to 18 French (large). It is inserted through the nose or mouth and has multiple uses—for collection of gastric specimens, lavage, gavage, or suction drainage. The Levin tube is usually specified in local policy directives as the type of tube that may be inserted by a nurse or by a qualified enlisted specialist.

- ***Stomach tube (Ewald)*.** This is a rubber, heavy-walled tube, size 30 French, with a funnel attached. It is used for gastric lavage. It is stiff enough to be inserted through the mouth for emergency treatment by lavage of an unconscious or poorly cooperative adult patient. A distinctive band 20 inches from the tip is a marker to indicate the length the tube should be inserted.

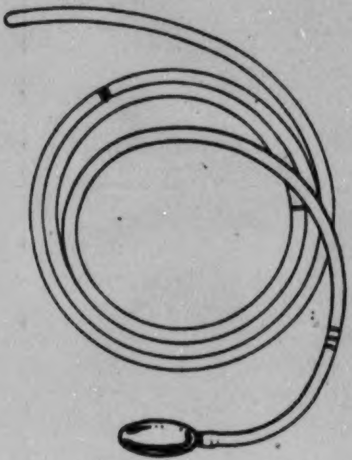
CAUTION

Severe damage can be done to the larynx, esophagus, or stomach during insertion; therefore, the procedure should be done only under direct medical supervision.



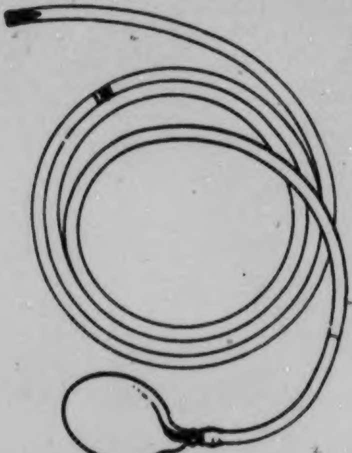
Stomach tube (Ewald)

- ***Duodenal tube (Rehfuss)*.** This is a rubber tube, 40 inches in length, with a slotted metal tip. It is used primarily to obtain specimens of duodenal drainage for diagnostic purposes.



Duodenal tube (Rehfuss)

- ***Cantor tube*.** This is a 10-foot long, single-lumen (channel) tube used for intestinal decompression. The Cantor tube has a mercury-weighted rubber bag attached to its perforated tip to help carry the tube through the stomach and intestine. The mercury is placed in the bag with a syringe and needle before the tube is inserted nasally by the doctor.

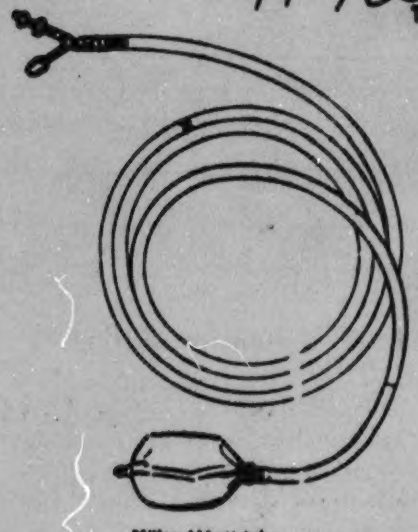


Cantor tube

- *Miller-Abbott tube.* This is a 10-foot long, double-lumen tube used for intestinal decompression. The Miller-Abbott tube has a balloon attached at the perforated tip and a metal Y-assembly at the other end. One branch of the Y-assembly connects to the lumen leading to the balloon; it is used only for inflation. The other branch of the Y-assembly connects to the lumen leading to the perforations; it is used for aspiration and irrigation. The doctor inflates the balloon after the tube has passed through the pylorus.

NOTE

The Miller-Abbott and the Cantor tube are radiopaque and their location in the stomach or intestine show clearly on radiography (X-ray) or fluoroscopy; this type of examination is often ordered during the course of treatment.



Miller-Abbott tube

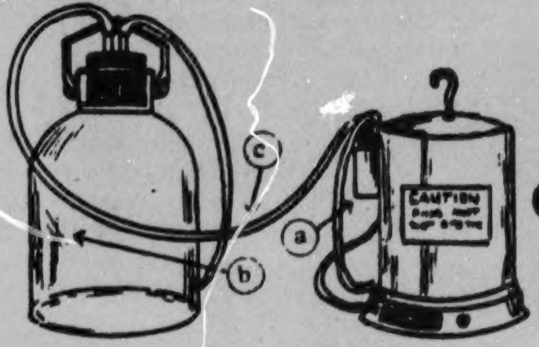
5–76. Suction—Drainage Mechanical Apparatus

Suction—drainage mechanical apparatus used with gastrointestinal tubes is designed to provide controlled, relatively low-pressure suction to avoid injury to mucous membranes. Two types commonly used are an electric-powered pump (Gomco or Emerson) and a hand-pump tank (Phelan). In hospital areas such as a recovery ward or intensive care, a special suction unit may also be available for use with a wall suction outlet.

NOTE

The term "Wangensteen suction," is often used in referring to any type of gastrointestinal suction apparatus, in recognition of the original and traditional 3-bottle, water pressure suction unit, devised by Dr. Wangensteen.

a. Electric Drainage Pump (Gomco). This apparatus (fig. 5–63) is an electric-powered, motorless pump. A partial vacuum in the drainage bottle is created by a heat-exchange mechanism. The mobile unit and the portable unit are used interchangeably. If the portable unit is used, always place the pump assembly above the drainage bottle—*for example,* hang the pump unit on the bedframe. Place the gallon bottle on a footstool or in a bottle holder.



Ⓐ Trap bottle. Ⓑ Drainage from patient.
Ⓒ Suction bridge from trap to drainage bottle.

Figure 5–63. Electric drainage pump (Gomco).

NOTE

To prevent fluid from being drawn into the suction bridge, empty the drainage bottle when two-thirds full. Any fluid inadvertently aspirated into the suction bridge will be caught in the trap bottle.

To operate the Gomco apparatus:

(1) Set the switch control to the high or low vacuum (suction) pressure ordered by the doctor.

CAUTION

Never change this control except on order.

(2) Plug in the cord to the wall outlet.
(3) Turn switch on.
(4) Test for suction by inserting the tip of the drainage tube in water. (There will be a slight delay in suction when the unit is first connected.)

b. Emerson Postoperative Pump. This apparatus (fig. 5–64) is a high volume, low-pressure pump, operated by an electrical motor. It can be

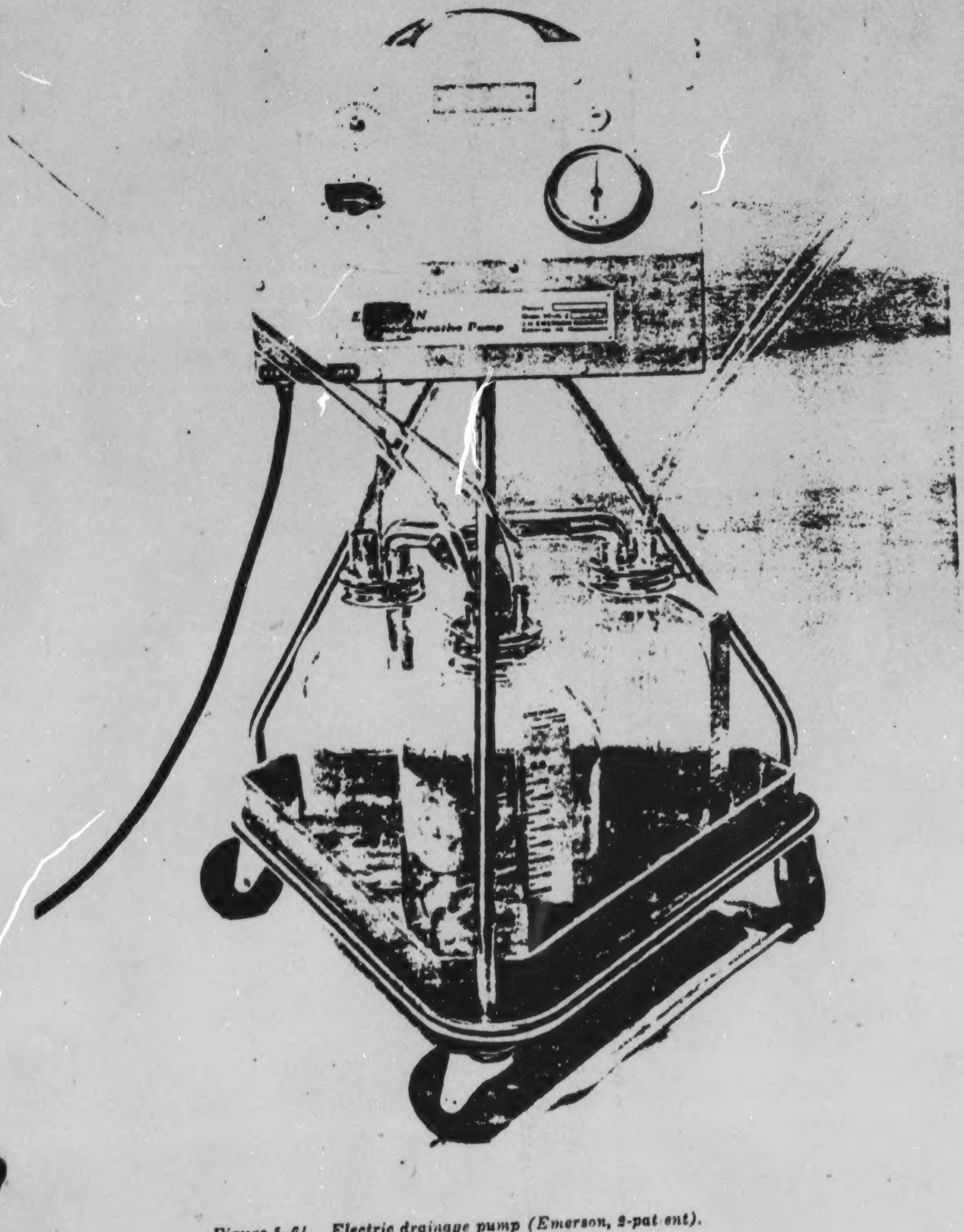


Figure 5-64. Electric drainage pump (Emerson, 2-patient).

used to maintain negative pressure in the pleural space or for continuous or intermittent suction elsewhere. The manufacturer's instruction manual and the local procedure manual should be referred to for operating instructions.

NOTE

> The pump is designed for use at the bedside in wards, intensive care units, and recovery rooms. It must not be used in the operating room or other hazardous atmospheres.

c. Hand-Pump Apparatus (Phelan Pump). This is a portable metal tank with a hand pump (fig. 5-65). The partial vacuum in the drainage bottle is created by pumping air out of the tank. If all connections are maintained properly, the vacuum pressure lasts approximately 20 hours and can be renewed by again using the hand pump. The Phelan pump is equipped with a drainage bottle; a 2-hole rubber stopper fitted with two short pieces of metal tubing; and two pieces of rubber tubing, each about 4 feet long. This apparatus has superseded other nonelectric, field-type pumps.

(1) *To connect the apparatus:* Fit the 2-hole stopper tightly into the drainage bottle. Connect one end of each of the two pieces of tubing to the metal tubing in the stopper. Connect one piece of tubing to the tubing adapter on the tank. Then connect the second piece of tubing to a glass or plastic connecting tip. This is the drainage tube connection leading to the patient's tube.

(2) *To prepare pump:* Close needle valve by turning knob clockwise. Clamp off the drainage tube leading to the patient. Pump handle 40 to 50 strokes or until the gage registers 3 to 5. (The gage is calibrated in inches of mercury.)

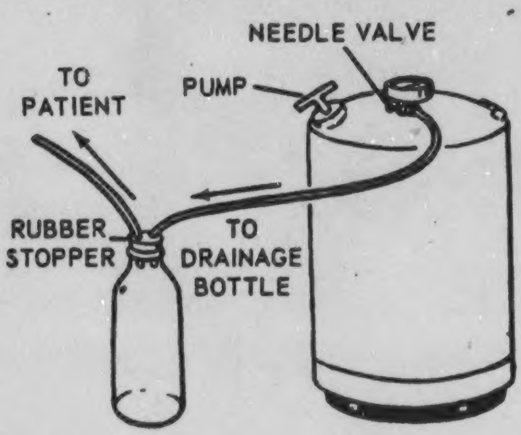


Figure 5-65. Hand-pump apparatus (Phelan).

(3) *To test for suction:* Open needle valve [illegible] turning knob counterclockwise. Release clamp [illegible] drainage tube. Test for suction by inserting the connection end of the drainage tube in water.

(4) *For operation:* Attach drainage tube connector to patient's tube. Watch the tank gage during operation. Keep it between 3 and 5.

5-77. Levin Tube Intubation

Gastric intubation using a Levin tube is done to obtain a specimen of stomach contents, to lavage the stomach, to gavage a patient, or to allow for drainage of stomach contents by suction apparatus. Local hospital policy determines the circumstances when intubation is done by the medical specialist.

EQUIPMENT

Assemble the following clean items on a tray:

Levin tube, size 16 French or specified size
Sponge basin containing ice* p.r.n.
Asepto syringe, 30 ml.
Emesis basin
Paper tissues
Surgical lubricant
Glass of water
Drinking tube
Bath towel, safety pin
Rubber or plastic protective sheet

*Use ice to chill a rubber tube to stiffen it and make insertion easier Do not chill a plastic tube.

PROCEDURE

1. Tell the patient what is to be done. Screen the unit. Position him sitting upright in bed, supported on the back rest, or out of bed on a chair.
2. Place the equipment tray on the bedside stand.
3. Pin the towel around his neck. Place the protective sheet over his lap and bedding.
4. Place the tissues and the glass of water convenient to the patient's hand. Tell him that small sips of water will help him to swallow during the procedure and that he can expect tears and flow of nasal secretions.

CAUTION

> Do not emphasize the possibility of gagging or vomiting, but place the emesis basin convenient to your hand.

5. Pick up the tube, rotate it to the position of greatest droop, and lubricate the tip. Use a light coating of surgical lubricant for nasal

insertion; dip the tube in water to lubricate it for oral insertion. Hold the lubricated tube about 6 inches from the tip in the right hand. Hold the remainder of the tube in the left hand, supporting the tube to prevent any downward drag. (Reverse holds if left-handed.)

6. Insert the tube:
   a. *For oral insertion:*
      (1) Tell the patient to tilt his head backward slightly and to open his mouth wide.
      (2) Pass the tube over the center of the tongue, directing it toward the back of the throat.
      (3) Tell the patient to close his lips lightly on the tube, to tilt his head forward slightly to a natural position for swallowing, and then to swallow. As he swallows, push the tube down a few inches.
   b. *For nasal insertion:*
      (1) Tell the patient to tilt his head backward slightly and to breathe through his mouth.
      (2) Insert the tip of the tube into the selected nostril, passing it along the floor of the nose to the pharynx.
      (3) Tell the patient to tilt his head forward to the natural position for swallowing, and then to swallow. As he swallows, push the tube in a few inches.
7. With each swallow, insert the tube a few inches, using firm steady pressure. Do not hurry and do not attempt to insert the tube faster than the patient can swallow. If it is allowed, tell him to take sips of water to encourage him to swallow naturally. Insert the tube to the predetermined distance, as indicated by circular marking on the tube.

CAUTION

Discontinue insertion immediately if the patient coughs or chokes. Remove the tube completely. Allow him to rest for a few minutes before attempting reinsertion. Discontinue the procedure if he again coughs, chokes, or gags excessively. Do not exhaust the patient or use force. Report two unsuccessful attempts and request competent assistance and supervision before continuing.

8. Test for placement of tube in stomach by aspirating with the asepto syringe. Squeeze the bulb before fitting the syringe tip snugly into the distal end of the tube to avoid injection of air when aspirating. Release the bulb and observe the barrel of the syringe for gastric content return. If repeated aspiration is needed, pinch off the tube, withdraw the syringe tip, squeeze the bulb, and reinsert the syringe into the tube. Do not inject air or water until aspiration is successful. Test to make sure the tube is not in the trachea. As the patient exhales, immerse the end of the tube momentarily in water. No bubbles should appear. If they do appear on exhalation, pinch off and remove the tube immediately. If it is certain that the tube is in the stomach but no secretions have been aspirated, wait a minute or so. Encourage the patient to relax. Try aspiration again. The tube sometimes becomes kinked or momentarily plugged with mucus or a food particle.
9. Following successful aspiration, carry out the procedure for which the tube was inserted:
   - Securing a specimen—table 5–8.
   - Lavage—para 5–81
   - Gavage—para 5–80
   - Suction drainage—para 5–78
10. Report and record procedure on Doctor's Orders (DD Form 728) and Nursing Notes (DD Form 640).
11. To remove the Levin tube—
    a. Following oral insertion: Hold some tissues at the chin. Pinch the tube to prevent any fluid contents from spilling into the trachea as the tube is withdrawn. Remove the tube smoothly and quickly, catching it in the tissues. Place tube and tissues in an emesis basin.
    b. Following nasal insertion: Hold some tissues at the nostril. Pinch the tube and withdraw as in oral insertion above.
12. Immediately after removal of the tube, assist the patient to rinse his mouth and wash his face.
13. Change any soiled bedding. Adjust the patient's position to one of comfort. Remove the screens. Leave the patient and the unit tidy. Take all equipment to the utility room.

Care of Equipment

1. Discard waste and disposable equipment.
2. Rinse reusable equipment to be returned to

CMS. To rinse the tube, use a syringe and flush cold water forcibly through its length.

3. Rinse, wash, sanitize, and dry equipment that is retained on the ward.
4. Return clean equipment to its proper place.

5–78. Gastrointestinal Suction Drainage (Levin Tube)

Suction drainage by means of a mechanical drainage apparatus is ordered when drainage is to be continued for an extended period.

EQUIPMENT

Levin tube intubation equipment
Suction apparatus
Adhesive tape
Elastic bands
Safety pins
2 clamps (Hoffman or rubber-shod hemostats)
Intake and Output Worksheet (DD Form 792)
Paper tissues
Antiseptic mouthwash
Toothbrush and dentifrice
Cotton-tipped applicators
Tube of petrolatum or cold cream
Emesis basin

PROCEDURE

Connecting the equipment:

1. Assist with intubation procedure p.r.n.
2. Test suction apparatus before taking it to the bedside. Clamp drainage tubing.
3. Connect drainage tubing to Levin tube.
4. Open clamp. Observe for drainage in glass or clear plastic connector attached to Levin tube.
5. Tape tube in place at nostril, using 2 strips of adhesive. Split one 3-inch length of adhesive halfway down its length. Wrap one split end around the tube at the nostril entry point. Center the tube in the nostril to prevent pressure on either side. With the two free ends, anchor the tube below the nose (moustache fashion) or to the cheek and side of the nose. Use a second 3-inch piece of tape to anchor the tube toward the side of the face in order to help support the weight.
6. Support the drainage tubing by anchoring it to the bottom bedsheet with a safety pin. Use an elastic band looped around the tubing near the connector and pin the elastic to the sheet, or catch a portion of the sheet on either side of the tubing with the pin to form a trough. With either method, allow sufficient length of tubing to prevent pull on the tube when the pa[illegible] moves.

Checking Equipment During Treatment

1. Check operation of suction equipment frequently for all of the following:
   a. Kinked or constricted drainage tube.
   b. Airtight connections.
   c. Suction device—if Gomco, check the wall plug, the switch, the pressure setting; if Phelan, check the gage and needle valve.
2. Look at the drainage flowing through the connector tube, as well as the accumulated drainage in the bottle. If no drainage is observed and all other checks have been made, the tube may be clogged. Failure to drain may be due to the end of the tube adhering to the wall of the stomach. If this is the case, try these two nursing measures:
   a. Change the patient's position by turning him to his opposite side or by raising or lowering the head gatch.
   b. Adjust the Levin tube by loosening the tape anchor, pulling the tube out an inch or two, then retaping. Report failure of suction drainage if after following steps a [illegible] b above, no drainage is observed. In this case, irrigation to clear the tube may be ordered by the doctor.

Care and Handling of Drainage During Treatment

1. Observe frequently the color and amount of drainage. Report any changes immediately to the nurse or doctor. Cloudy, pale-yellowish drainage is characteristic when the tube is in the stomach; bile-colored (greenish) drainage is characteristic when the tube is in the duodenum. In gastrointestinal drainage, blood varies in color—it may be dark red when fresh, dark brownish-red or in brown particles ("coffee ground drainage") if it has been partially digested. Fecal odor of the drainage is noticeable in intestinal obstruction.
2. Measure the contents and empty the drainage bottle (a) at the hour designated, (b) when the drainage bottle is two-thirds full, or (c) when suction is discontinued.
3. To empty the drainage bottle—
   a. Clamp the Levin tube. Remove stopper [illegible] drainage bottle. Place stopper in emesis basin. Take bottle to utility room.
   b. Measure and record amount of drainage.

Dispose of measured drainage by flushing into hopper or toilet commode.

c. Rinse the bottle with cold water. Then wash thoroughly with prescribed detergent solution. Rinse and drain.

d. Reconnect clean bottle, replacing the stopper securely. Release clamp. Observe for effective renewal of suction drainage.

Observation and Care of the Patient

1. Provide good oral hygiene at regular and frequent intervals. Offer water or mouthwash to rinse the mouth every hour. Assist the patient to brush his teeth at least every 4 hours.
2. Cleanse nostril margins with a moistened cotton-tipped applicator at least once every 4 hours.
3. Using applicator, apply lubricant to the cleansed lips and nostrils at least every 4 hours.
4. Encourage the patient to swallow saliva naturally; the tube is a constant source of annoyance, and the patient may have a tendency to expectorate excessively. The medical officer may allow chewing gum to help maintain mouth moisture and to encourage normal swallowing of saliva. Chewing gum is provided only for conscious, responsive, alert patients.

CAUTION

Remind the patient to remove gum before mouth care and sleep.

5. Report complaints and signs of nose or throat irritation (excessive mucus, sore throat, or hoarseness).
6. Encourage patient to change position frequently, using care not to pull on the tube and not to lie on the drainage tubing.
7. Follow diet orders exactly. If water or clear fluids are allowed by mouth, be sure to check on amount to be given at one time. Know exactly whether or not the tube is to be clamped when fluids are given and at what time interval in relation to oral intake. For example, the order may be to clamp the drainage tube for 1 hour after intake to allow some absorption.
8. Keep accurate intake and output records. Large amounts of fluid and electrolytes are lost during continuous suction drainage, and information on all intake and all output is used by the doctor in planning fluid replacement.
9. Observe the patient frequently when he is asleep, noting the tube marking at the nostril. The patient may have unknowingly pulled the tube out partially or completely. If partially out, advance the tube to the required point, and check for drainage. Tape securely after noting drainage. If the tube has been accidentally removed, notify the nurse or doctor. Reinsert only on order.

Levin Tube Irrigation

1. Irrigate only on order by the medical officer. (The type and amount of solution and frequency of irrigation must be specified.)
2. Measure amount of irrigating solution accurately and record on the I & O worksheet as specified by local directive.
3. Do not use the syringe to aspirate back the irrigating solution unless ordered to do so; ordinarily, all solution used to irrigate and clear the tube will be returned in the suction drainage.
4. Do not use a Luer-type syringe unless so ordered. An asepto (bulb) syringe is recommended for use with a Levin tube because less pressure is exerted.

Equipment

Sponge bowl
Asepto syringe (30 ml.)
Emesis basin
Solution ordered (at room temperature, unless otherwise specified)
Rubber-shod hemostat forceps, 2

Procedure

1. Pour solution into sponge bowl.
2. Clamp drainage tubing.
3. Place emesis basin under connecting tip between Levin tube and drainage tubing.
4. Clamp Levin tube (or pinch off with fingers) and disconnect Levin tube from connector.
5. Fill syringe, insert syringe tip into Levin tube, and release tube. Gently squeeze bulb to inject 30 ml. of solution. If fluid flows in freely, the tube is open.

CAUTION

Do not use force.

6. Clamp Levin tube and remove syringe.
7. Reconnect Levin tube to the drainage tubing.
8. Release clamps. Observe glass connector to see if solution drains properly on reestablishment of suction.

9. Record time, amount, and type of solution used on I & O worksheet in intake column.

Care of Irrigation Equipment

1. Following a one-time irrigation, remove equipment. Rinse it and return it to CMS.
2. If equipment is kept at the bedside for repeated irrigation at scheduled intervals, rinse syringe in tap water and keep syringe and solution bowl between folds of the wrapper. Replace with clean equipment daily.

NOTE

Use sterile equipment for each irrigation as ordered following gastrointestinal surgery.

To Administer Medication Through the Tube

1. Pour required medication into a medicine glass or paper cup, following the rules in paragraph 4-25 and table 4-5.
2. Add 15 to 20 ml. of water. Stir thoroughly, using a clean tongue blade. Place medication, paper cup of water, tongue blade, and medicine card on the medicine tray.
3. Clamp the drainage tube leading to the suction. Clamp the Levin tube and disconnect it from the glass or plastic connector.
4. Insert syringe tip into Levin tube and pour medication into the syringe. Release the clamp.
5. Follow the medication with 30 ml. of water to clear the tube.
6. Reconnect the Levin tube and the drainage tube. Unless otherwise ordered, leave the Levin tube clamped for 1 hour to provide for absorption.
7. Record time, medication, and amount of water administered. Also, record the time the tube was clamped and the tube was opened.

Discontinuing Suction

1. Clamp off the Levin tube.
2. Turn off the suction apparatus.
3. Disconnect Levin tube from the glass connector.

CAUTION

Do not remove Levin tube unless so ordered. The tube may be left in place for several hours to see if the patient tolerates discontinuance of suction drainage. (To remove the tube, refer to paragraph 5-77).

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4. Protect open end of Levin tube by folding the end over and wrapping in a 4- by 4-inch g[illegible] square secured with a rubber band.
5. Take drainage tubing and suction apparatus to the utility room.
6. Measure drainage. Record.
7. Rinse reusable equipment with cold water. Flush cold water forcibly through all tubing, using a syringe.
8. Follow prescribed procedure for returning equipment to CMS or for cleaning and storing it on the ward.

5-79. Intestinal Decompression

Intestinal decompression accomplished by intubation with a Miller-Abbott or a Cantor tube and the application of suction are similar in many respects to gastrointestinal decompression with a Levin tube. Important differences include the following considerations:

a. Intubation is done by the medical officer.

b. The Miller-Abbott (or Cantor) tube is not taped to the patient's face following intubation. Since the tube is designed to advance through the stomach into the small intestine by gravity [illegible] peristalsis, taping or otherwise securing the outside length could interfere with the desired advancement. The long distal length of tube is coiled loosely at the head of the bed unless otherwise ordered.

c. Position and activity of the patient following intubation contribute to the advancement rate of the tube. The specialist must know the position, the sequence, and the time interval ordered for each change in position, and modify other patient care measures accordingly. *For example*, after the tube has been introduced into the stomach, placing the patient on his right side with the foot of the bed elevated for a specified time interval facilitates the passage of the tip of the tube into the pylorus. Once the tube starts to advance, subsequent positions may be ordered: on the back, in Fowler's position; followed by on the left side, with the bed flat; followed by ambulation.

NOTE

Explaining to the patient and securing his full cooperation is very important, but the patient may be too ill to understand instructions or to realize that the tube is anything more than a constant source of annoyance and discomfort.

Special vigilance is required, and full supportive nursing care must be provided to help the patient tolerate the tube.

EQUIPMENT

INTESTINAL TUBE (MILLER-ABBOTT)

Y-tube assembly, consisting of—
- Y-connector (glass or clear plastic)
- 4-inch lengths of latex drainage tubing, 3
- Clamps (Hoffman or rubber-shod hemostats), 2
- Sponge bowl with ice
- Syringe, 30 ml. Luer
- Basin, emesis
- Lubricant, as ordered
- Protective rubber or plastic sheet
- Bath towel
- Safety pins
- Facial tissues
- Glass of water with drinking tube
- Suction apparatus (Gomco, Phelan, or Emerson)
- Local anesthetic, as ordered (topical anesthetic agent)
- Applicator swabs and atomizer spray p.r.n.
- Thumb forceps (straight or bayonet type)

PROCEDURE FOR EQUIPMENT PREPARATION

1. Assemble equipment.
2. Prepare the Y-tube assembly as illustrated in figure 5-66. Do not connect to Miller-Abbott tube before intubation.
3. Set up suction apparatus. Test to make sure it is in working order.
4. Check doctor's order for local anesthetic. Place labeled container of anesthetic on tray. Provide atomizer spray and cotton-tipped applicators for the medical officer's use p.r.n.

INTUBATION PROCEDURE

1. Position the patient as directed by the medical officer—high Fowler's position or supine. Place protective covering as for Levin intubation.
2. Assist doctor, as he directs, with local anesthetic nasal instillation.
3. Assist with intubation p.r.n. The doctor will intubate the patient. The deflated balloon is

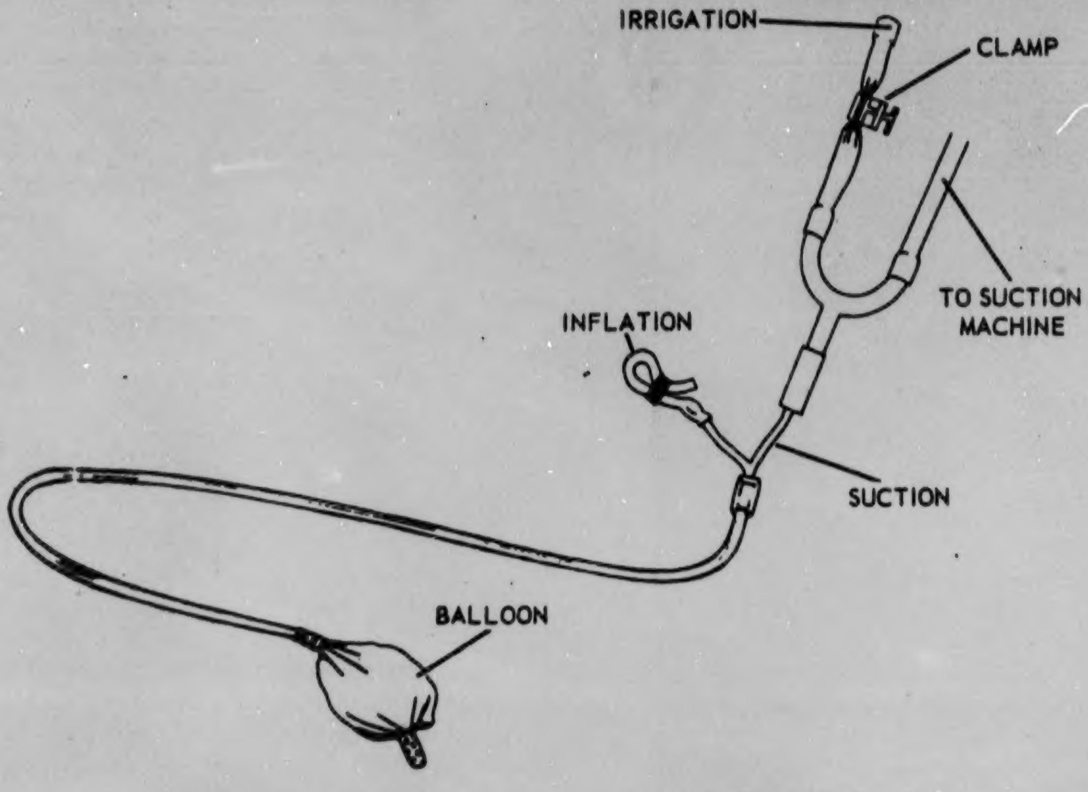


Figure 5-66. Miller-Abbott tube irrigation and suction assembly.

folded umbrella-like and passed through the nose. The doctor will aspirate with the Luer syringe initially to insure tube location in the stomach.

4. Follow exact orders for positioning of patient after intubation.
5. The doctor may test for advancement of the balloon into the intestine by attaching an empty Luer syringe with a loose-fitting plunger to the inflation lumen of the tube—if the balloon is in the intestine and peristalsis is present, the movement of the intestine on the balloon will make the plunger move in the barrel. Keep this "Testing Syringe" at the bedside for the doctor's use.

NOTE

Intubation and decompression procedure with a Cantor tube is similar in most respects to the procedure for the Miller-Abbott tube. Mercury is injected into the bag of the Cantor tube before intubation; then with the bayonet thumb forceps, the doctor elongates the mercury-weighted bag while it is inserted nasally. A Y-tube assembly may also be used for suction and irrigation.

Continuation of Patient Care

1. Connect suction apparatus when ordered. This may be immediately after the doctor has aspirated stomach contents, or only after tube has advanced. Using Y-tube assembly, attach suction arm to the suction apparatus. Clamp off irrigation arm. Open suction arm.
2. Coil extra length of Miller-Abbott tube at head level on the bed.

CAUTION

Do not tape Miller-Abbott tube in place or fasten it to the bedding. When suction is connected, support drainage tubing by securing it to the bed below the connector tip of the Y-tube.

3. Position the patient as ordered. Follow orders for position, sequence, and time interval. Note these orders on Nursing Care Plan (DA Form 8-250) at the bedside.
4. Follow observation and care of the patient procedures in paragraph 5-78.
5. Be particularly observant for any signs of peristalsis; *for example*, passage of flatus by rectum. This is a favorable sign that intestinal function is returning. Record and report this to the nurse or doctor.
6. Follow orders for manual advancement of the tube. Once it has reached the duodenum [illegible] peristalsis is active, the tube may advance automatically about 12 inches each hour without any manual assistance. Note at regular intervals the advancement observed or its failure to advance. A responsive patient may be instructed by the doctor to advance the tube manually.
7. Unless otherwise ordered, transport the patient on a stretcher to X-ray or fluoroscopy, maintaining the required position. Discontinue suction temporarily by clamping the tube, disconnecting the Y-tube assembly, and protecting the open end of the Miller-Abbott tube with a clean, dry 4- by 4-inch gauze square fastened with a rubber band. Clamp the suction drainage tubing and turn off the suction while it is disconnected.

Removal of the Miller-Abbott Tube

1. Follow the directions of the doctor for—
   a. Disconnecting suction.
   b. Deflating tube.
   c. Withdrawing tube. The tube is usually withdrawn gradually, a few inches [illegible] time; for example, 3 inches every 5 to [illegible] minutes. The patient may feel nauseated because the tube is pulling against peristalsis.
2. Provide immediate mouth care when the tube is finally withdrawn. The taste and odor of the tube are foul.

NOTE

If the tube has passed far down in the intestinal tract, the doctor may decide to cut the tube at the nostril and allow peristalsis to carry its full length through for rectal removal. (Reassure the patient that this indicates excellent intestinal function.)

5-80. Gavage

Gavage or tube feeding is used to provide nourishment to a patient who is unconscious or unable to swallow, or who refuses food. A liquid formula prepared by food service is ordered by the doctor. Water and medications in solution are also given by gavage. A nasogastric (Levin) tube or a p[illegible]tic small caliber (size 12) nasal feeding tube [illegible] usually used. Following insertion the tube is taped in place for subsequent feedings.

NOTE

Formula prepared by food service is always labeled with the patient's name and dated. The container must be stored in the refrigerator. Food service personnel check for and remove outdated supplies from the ward refrigerator, but ward personnel must be aware of the necessity of using only fresh, refrigerated, properly identified gavage feedings. Local policy may require frequent changing of nasogastric tubes when patient is receiv-

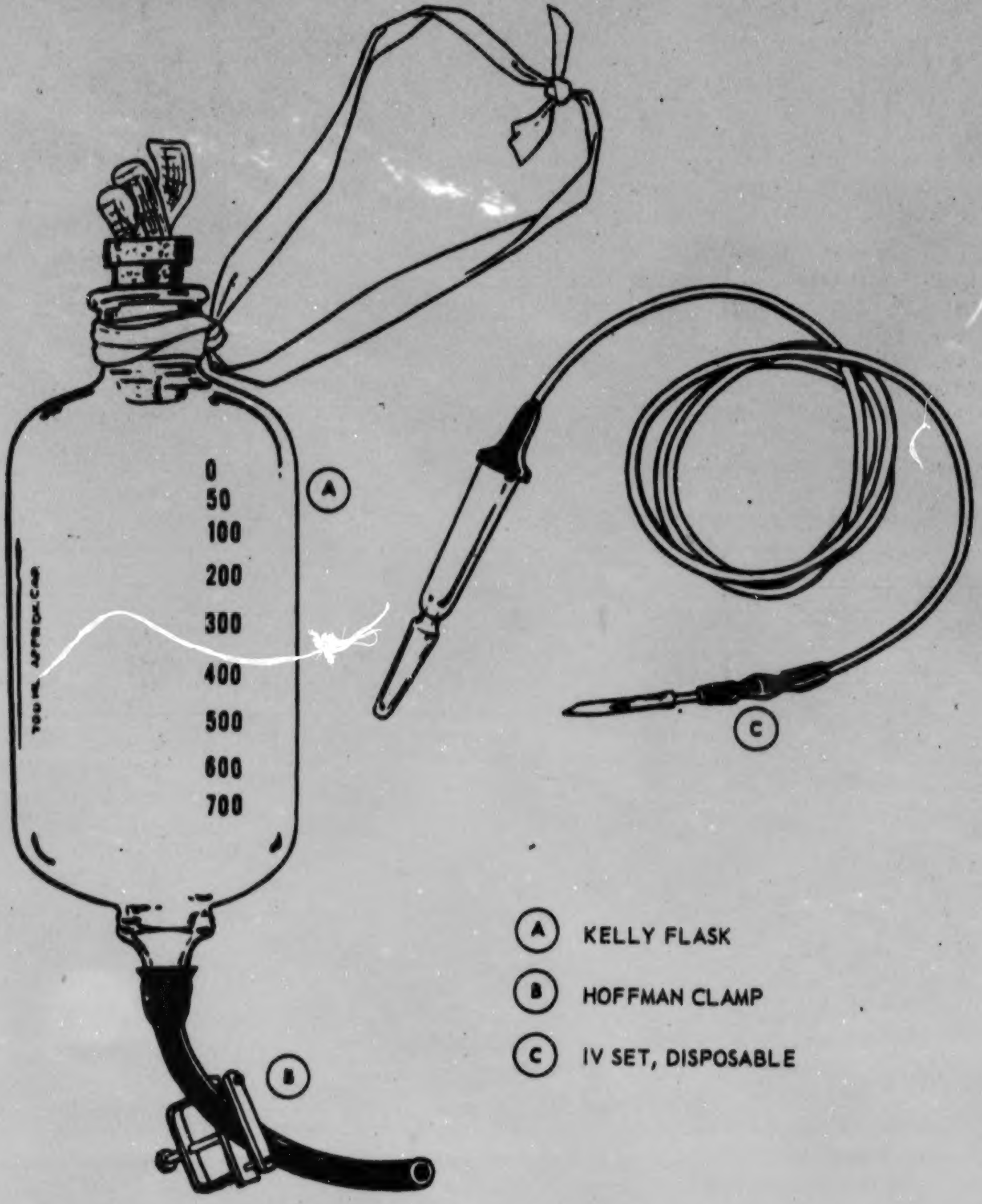

0
50
100
200
300
400
500
600
700
A
B
C
A KELLY FLASK
B HOFFMAN CLAMP
C IV SET, DISPOSABLE

Figure 5-67. Gastric feeding set.

ing gavage feeding for a prolonged period of time.

a. Funnel Method. For the funnel method, the cylinder of a 30 ml. asepto syringe is inserted in the end of the tube, and the feeding is poured in slowly. (For a one-time feeding, a standard feeding tube with attached funnel is occasionally used. This tube is inserted orally.)

b. Drip Method. For the drip method, a feeding set (fig. 5–67) assembled in CMS is used. A glass flask (Kelly bottle) connected to disposable IV tubing is suspended from an irrigating stand. The gavage feeding drips into the tube at a preset drop rate.

EQUIPMENT

(Following intubation, nasogastric tube)

Food service tray with paper cover
Asepto syringe, 30 ml.
Liquid feeding, as ordered
Pitcher (500 ml.) for formula
Glass of water
Hand towel
Clean 2- by 2-inch gauze square
Elastic band
Hoffman clamp (or other small tubing-clamp)

PROCEDURE (FUNNEL METHOD)

1. Assemble equipment in clean work area. NEVER prepare gavage equipment in the utility room. Pour required amount of properly identified formula into the pitcher. Set the pitcher in a basin of warm water to take off the chill. When slightly warmed, place pitcher on tray.
2. At bedside, place the tray on the table.
3. Place the patient in an upright or modified Fowler's position, if permissible. Place the towel bib-fashion around his neck.
4. Remove the elastic band and gauze square from the tube while pinching off the tube. Check the position of the tube. Attach the syringe and aspirate gently to insure that the tube is in the stomach. Kink the tube against the tip of the syringe and remove the syringe bulb.
5. Pour a small amount of water into the syringe and allow this to run in slowly.
6. Pour the feeding slowly down the side of the syringe. Keep the syringe full until all of the feeding has been given.

CAUTION

Do not elevate the syringe above head height. Do not use force. Allow the feeding to run in by gravity alone. Kink the tube slightly to slow the flow p.r.n.

7. Follow up the feeding by pouring about 60 ml. of clear water in the syringe to rinse the tube.
8. Pinch off the tube and remove the syringe barrel. Cover the end of the tube with a clean gauze square, securing it with an elastic band.
9. Record feeding and amount of water given on I & O worksheet.
10. Rinse and return pitcher and glass to food service for sanitizing.
11. Rinse and return asepto syringe to CMS.

PROCEDURE (DRIP METHOD)

1. Use gastric feeding set (fig. 5–67) supplied by CMS and liquid feeding as ordered. With drip method, warming of formula is unnecessary.
2. Clamp tubing. Pour in required amount of formula from labeled container. Cover opening of flask with gauze fluff.
3. Suspend drip bottle from irrigating stand, unclamp tubing, and expel air. Attach adapter end of tubing to feeding tube.
4. Adjust clamp below drip chamber to deli[illegible] required number of ml. per minute. Observe at frequent intervals while feeding is being administered by drip method.
5. When required feeding has run out of the bottle, clamp the tubing and disconnect it from the nasogastric tube.
6. With an asepto syringe, gently introduce about 30 ml. of water to rinse the nasogastric tube. Clamp the tube. Cover the end with a clean gauze square.
7. Record feeding on I & O worksheet.
8. Discard the IV tubing. Rinse the bottle and return to CMS.
9. Use fresh bottle and IV tubing for each feeding; this will help prevent gastrointestinal upsets or diarrhea due to repeated use of inadequately cleansed feeding equipment.

5–81. Gastric Lavage

Gastric lavage is ordered to wash out the stomach. The doctor usually intubates orally and lavages the patient, but he may authorize a qualified enlisted specialist to perform both procedures[illegible] Levin tube and a large asepto syringe may be used, or a large lumen, stiff-walled Ewald stomach tube with funnel attachment may be necessary.

The large-lumen tube is usually ordered when particles of food in the stomach are expected to be present, since these particles would occlude the lumen of a Levin tube.

EQUIPMENT

Nasogastric (Levin tube) or stomach tube, as ordered
Asepto syringe, 30 ml. size (if Levin tube is used)
Washbasin
Pitcher (approximately 3-quart size)
Lavage solution—warm water (100°–105°) or warm saline
Large rubber sheet
Bath towel
Safety pin
Paper tissues
Lubricant (for nasal insertion of Levin tube)
Emesis basin
Mouth wedge p.r.n. (2 tongue blades, padded with gauze and taped together)
Bucket
Newspaper or other protective floor covering

INTUBATION AND LAVAGE PROCEDURE

1. Screen the treatment area.
2. Tell the patient what is to be done and what he can do to help.
3. Check for and remove dentures. Place them in a labeled container in a safe place.
4. Position the patient sitting upright. If lying down, place in a left lateral recumbent position.
5. Drape the bedding and the patient with the protective rubber sheet. Pin the towel around the patient's neck.
6. Place the tube tray, pitcher of solution, and basin on a table convenient to the operator.
7. Place the bucket on the floor, on newspaper or other cover, at the operator's side of the bed.
8. Insert stomach tube orally:
    a. Find the circular marker indicating distance to be inserted. If marker is not visible, estimate distance by measuring on the tube the distance from the tip of the patient's nose around his ear and to the lower end of his sternum. Place a small strip of adhesive on the tube to mark this distance.
    b. Hold the tube 6 inches from its tip and rotate it to determine the position of greatest droop. Lubricate the tube by dipping in water.
    c. Ask the patient to tilt his head backward and to open his mouth wide.
    d. Place the tip of the tube far back in his mouth on the center of his tongue.
    e. Tell the patient to close his lips loosely on the tube, to tilt his head forward slightly, and to swallow. Insert the tube down into his throat as he swallows.
    f. Avoid force. With each swallow, insert the tube a few more inches.
    g. Observe the patient for coughing, choking, and cyanosis. If any of these occur, remove the tube immediately. Allow the patient to rest before attempting reinsertion.
    h. When tube is at marker, discontinue insertion.
9. Proceed with lavage:
    a. If patient is sitting upright in bed, lower the head of the bed. Have the patient lie on his left side with his mouth near the edge of the bed.
    b. Test for return of stomach contents before pouring any solution into tube. Hold basin below bed level and invert the funnel end of the stomach tube over the basin. Some stomach contents will drain by gravity. Save this first drainage for a specimen.
    c. Hold the funnel upright at mouth level. Pour solution slowly from the pitcher into the funnel. Keep the funnel full, but pour no more than 500 ml. at one time before draining stomach contents.
    d. Observe patient for cyanosis, increased respiration, gagging, and attempts to vomit. Pinch off the tube at the lips and remove it immediately if any of these signs occur. If patient vomits, support his chin in hyperextension to keep airway clear and prevent aspiration.
    e. Siphon back the gastric contents and lavage fluid: while fluid is still in the funnel, pinch off the tube immediately below the funnel; lower the tube and invert the funnel over the bucket. Release pinch-off and allow contents to drain into the bucket.
    f. Repeat steps c, d, and e above until the returns are clear or until the amount of solution ordered has been used.
10. Discontinue treatment:
    a. Pinch off the tube at the lips to prevent contents from spilling into the trachea.

b. Hold emesis basin at the chin.
c. Withdraw the pinched-off tube smoothly and quickly, placing it in the emesis basin.
d. Remove protective sheet and towel.
e. Assist the patient to rinse his mouth. Wash his face. Leave him clean and dry and as comfortable as possible.

11. Care for equipment and specimen:
    a. Take all equipment to the utility room.
    b. Measure and save initial drainage specimen for examination by the medical officer.
    c. Measure total lavage return. Estimate amount of stomach contents obtained by subtracting known amount of lavage fluid from total. Record amount.
    d. Discard lavage return in the hopper. Rinse and wash bucket and basin.
    e. Rinse tube, flushing cold water through it repeatedly from the funnel end.
    f. Wash rubber sheet, dry, and hang out to air.
    g. Return all CMS equipment.
12. Record the procedure:
    a. Type and amount of solution used.
    b. Appearance, odor, and approximate amount (total minus lavage solution) of gastric return. Note if specimen was sent to laboratory.
    c. Patient's toleration and reaction to the procedure. Make special note if the patient vomited or had any respiratory difficulty.

5–82. Gastrostomy Tube Feeding and Related Care

In a gastrostomy tube feeding, the patient is fed by a catheter introduced directly into the stomach through a surgical opening (gastrostomy). The gastrostomy procedure is done when disease or injury of the esophagus makes gastric intubation by way of the esophagus impossible. At the time of surgery, the gastrostomy tube, with usually a size 20 to 26 catheter, is inserted into the stomach by means of an incision; the distal end is clamped to prevent leakage, and the tube is secured at the incision with one or two sutures. As healing of the wound takes place, a stoma (artificial opening) is formed, and the catheter can then be removed and reinserted. Some patients are fitted with a plastic prosthesis ("belly button") instead of the catheter; the prosthesis remains in place and a catheter is inserted through its lumen for feeding; a screw cap or plug seals off the button opening when the catheter is not in use. Special attention must always be paid to the skin area around the tube since there may be some leakage of gastric secretions and unless the skin is kept clean and dry it will soon become very irritated. When the medical specialist does the gastrostomy feeding, he must also know how to carry out the prescribed skin care and dressing procedure. For the patient's morale, his feeding procedure should resemble as much as possible a normal meal procedure and not be an activity incidental to the dressing and skin care routine. For example, dressing and skin care materials should not be assembled on the same tray with his feeding set. When the time intervals for doing all required procedures coincide, plan to do the dressing and skin care procedures first, so that the patient is as clean, comfortable, and relaxed as possible for his meal.

DRESSING PROCEDURE

After the original surgical incision has healed, the dressing procedure for the stoma is usually done by nursing personnel, as a clean procedure, following the routine ordered by the doctor. A minimal number of dry, sterile compresses are placed around the tube, with the clamped end of the tube coiled on the surface of the dressing and secured in place with Montgomery straps.

Equipment

Sponge basin of warm soap solution
Sponge basin of warm water
Cotton balls, large
4- by 4-inch gauze compresses
ABD pad
Dressing set, with scissors
Emesis basin
Paper bag or newspaper
Towel
Plastic or rubber sheet
Instrument tray

Procedure

1. Assemble dressing equipment on instrument tray.
2. Screen the patient, place him flat in bed, turn the bed covers back to hip level, and adjust pajamas to expose gastrostomy dressing.
3. Place paper bag on newspaper and emesis basin at foot of bed. Place protective towel at left upper side of the patient.
4. Wash hands.
5. Open the dressing set.

6. Unfasten Montgomery straps. Support the gastrostomy tube with one hand to prevent any tension on the tube.
7. Using one forceps, remove dressing around tube. Inspect for tissue drainage and any sour-smelling leakage from the stoma before discarding.
8. Using the fingers, wash the skin around the stoma with cotton balls and soap solution; then rinse with cotton balls and water. Pat skin dry with gauze compresses. Note any signs of irritation or any complaints from the patient of soreness or tenderness in the tube area.
9. Place dry 4- by 4-inch compresses, slit halfway, around the tube. Reinforce with one ABD pad, also slit halfway.
10. Coil clamped end of tube on surface of ABD pad, with no tension on the tube.
11. Secure dressing and clamped end of tube with Montgomery straps.
12. Make the patient comfortable.
13. Remove dressing equipment. Discard waste. Wash hands. Reassemble tray for next dressing. Return clean tray to patient's unit.

FEEDING PROCEDURE

Equipment

Food service tray with tray cover
China pitcher (500 ml. capacity), 2
Tablespoon
Container of formula
Asepto syringe barrel or small funnel
Basin of warm water

Procedure

1. Wash hands.
2. Stir formula in container with spoon. Pour prescribed amount into one china pitcher. Place the pitcher in warm water to take chill off.

NOTE

Formula must be obtained from labeled, refrigerated container provided by food service.

3. Pour measured amount of tap water into second pitcher.
4. Place slightly warmed formula pitcher, spoon, water pitcher, and asepto syringe on food service tray.
5. Prepare patient. Provide handwashing basin, and assist him to wash his hands. Explain to him how he will assist with his feeding; *for example*, with holding his tube or syringe, pouring formula, etc.
6. Screen the patient. Place him in low gatch position if in bed. Fold back covers. Open pajama to expose gastrostomy.
7. Unfasten Montgomery straps to release the coiled catheter. Leave clean dressing undisturbed.
8. Support the catheter in upright position, with no tension on it. Unclamp the catheter, while pinching it off. Place the clamp within hand reach on the tray at the bedside.
9. Insert the syringe, without the bulb, into the catheter, kinking off the catheter against the inserted tip. (Show the patient how to hold the syringe and catheter in this position.)
10. Tilting the syringe at a slight angle, pour in about 15 ml. of water (about half a syringe).
11. Release the kinked catheter and allow water to flow in slowly. Before the syringe is empty, pour in formula, allowing it to flow slowly by gravity.

NOTE

Thickened formula may require slight pressure from the syringe bulb.

12. When all formula is given, but before the syringe is completely empty, pour water into the syringe to clear the catheter.
13. Remove syringe while pinching off catheter. Reapply the clamp.
14. Coil the tube on the top surface of the dressing and refasten the Montgomery straps.
15. Make the patient comfortable. Remind him to lie quietly on his back or to turn slowly toward his right side, if that position is more comfortable. Open the curtains or remove screens.
16. Remove feeding tray. Measure amount of water remaining and record amount of water and formula given on I & O worksheet.
17. Rinse utensils with cold water. Return pitcher and spoon to food service, the syringe to CMS.
18. Reset feeding tray with clean cover and clean utensils.
19. Check patient. He should not feel overly fed or nauseated. Report these symptoms stat—the feeding may require adjustment in amount or frequency if the patient has gastric distress.
20. Plan to give water between feedings, at regular intervals; record all water given on I & O

record. Instruct patient how to do this if he can participate in self-care.

Mouth Care

The teeth and mouth of a patient with a gastrostomy must be kept in optimum condition by frequent, regular, oral hygiene measures. Sometimes chewing gum is permitted to stimulate flow of saliva and to keep the mouth moist. If the patient is unable to swallow even saliva, a covered, plastic or other disposable sputum container should be provided and changed frequently. Measurement of expectorated saliva is an important part of the patient's output record.

5–83. Colostomy Irrigation and Dressing

A colostomy is the forming of a stoma (artificial opening) into the colon. It may be temporary or permanent.

a. Patient Needs. A colostomy, temporary or permanent, is very distressing to the patient. He requires encouragement, understanding, and assistance to overcome his fear and distaste for the colostomy and to become independent and self-sufficient in its care before he leaves the hospital if this is part of his planned medical care. His training should be started as soon as practicable after surgery; the exact time, however, varies with each patient. Keeping the patient clean, dry, and odor free is essential. The ease and skill with which the nursing personnel are able to car[illegible]r the colostomy are especially important in hel[illegible]g the patient physically and emotionally. The patient and his family learn during this period that the colostomy can be managed and that a full, active life can be anticipated.

(1) *Temporary colostomy.* The temporary colostomy is usually done for diversion of fecal material following intestinal repair or in preparation for further surgery. A loop of the colon is brought through the abdominal wall above the skin surface and two openings are made in the colon (a, fig. 5–68). The opening into the proximal loop leads to the functioning part of the gastrointestinal tract, and will discharge feces and flatus. The opening into the distal loop leads to the nonfunctioning colon and rectum; the distal loop will discharge mucous or serous secretions.

(2) *Permanent colostomy.* The permanent colostomy (b, fig. 5–68) serves as an artificial anus for the remainder of the patient's life and is done in conjunction with the removal of the lower bowel and the rectum. There is no sphincter control, but bowel movements through the stoma may be controlled by daily habits of living, which will include irrigating at regular intervals.

b. General Nursing Measures. To help the patient to become independent and self-sufficient in the care of the colostomy when he leaves the hospital, follow these rules—

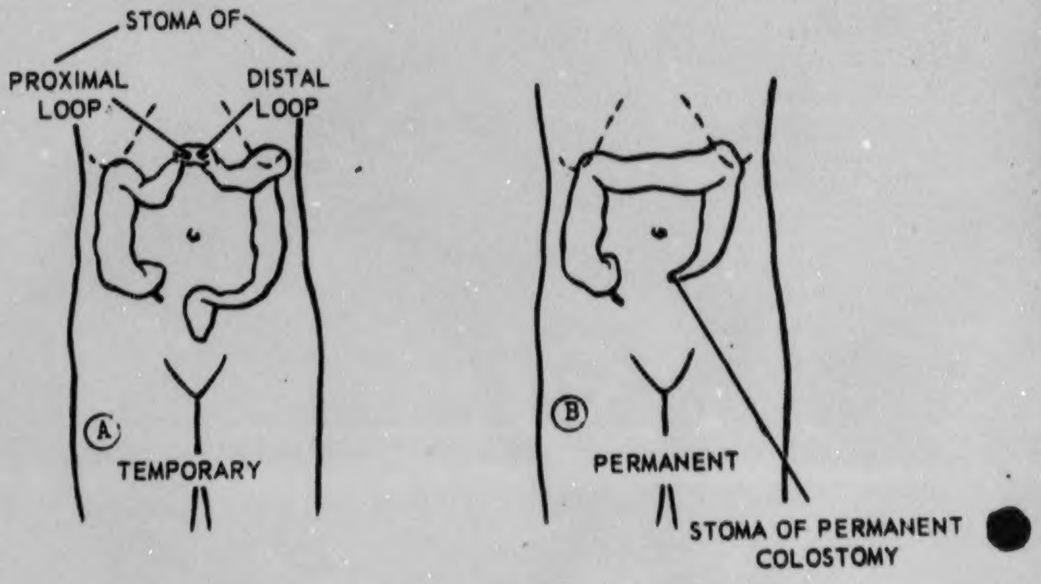


Figure 5–68. Colostomy Ⓐ temporary and Ⓑ permanent.

(1) Insure complete privacy for the patient when caring for the colostomy.

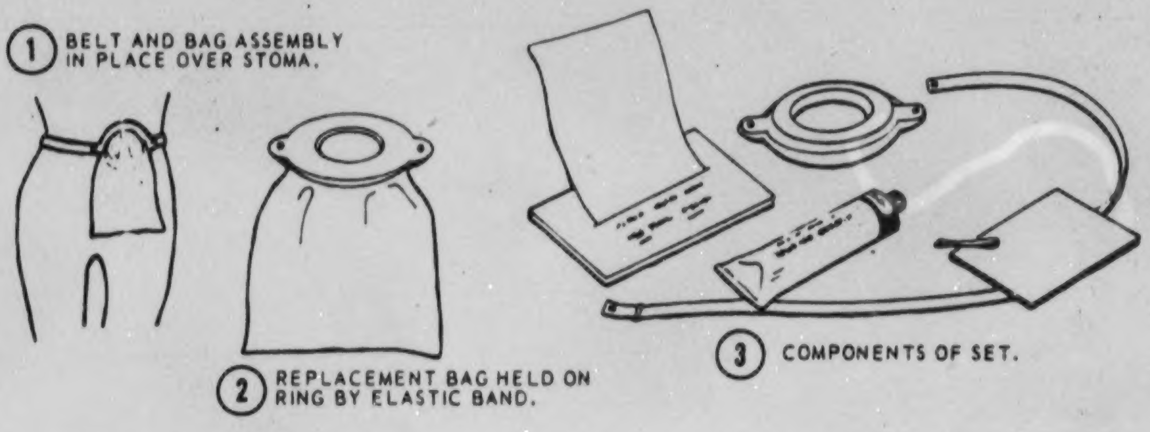
(2) Encourage the patient to look at the colostomy and to assist with the dressing in order to gradually overcome his distress. The first step may be to have the patient place clean fluff dressings on the cleansed area. From this point, he can work backward to cleansing the area with the soap sponges. Teach him how to care for the skin around the stoma. Cleanliness and protection from digestive enzymes in the fecal drainage will prevent excoriation (raw skin surfaces).

(3) As soon as possible, plan to do the irrigation in the bathroom with the patient seated on the toilet. This emphasizes the return to normal habits of evacuation. (The local hospital will normally supply the patient with an irrigating kit (fig. 5-69) and a disposable plastic bag device which will fit over the stoma.)

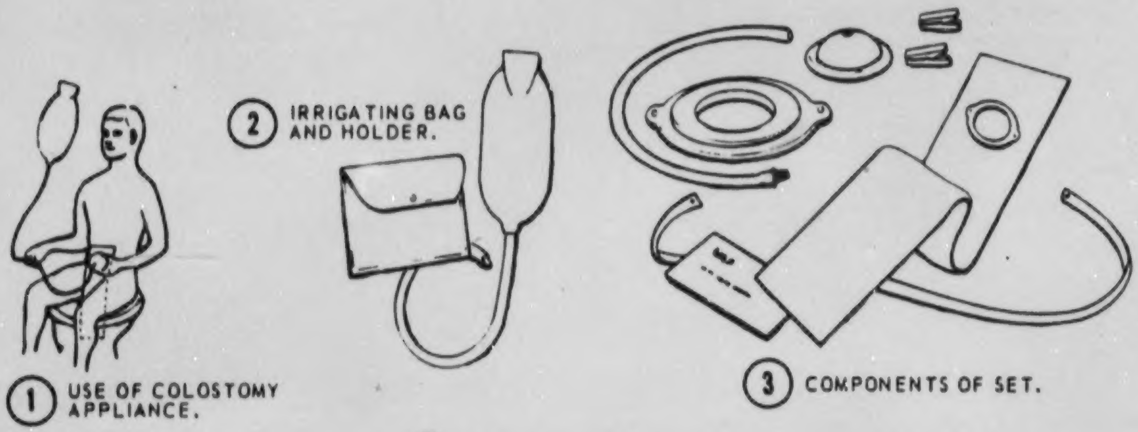
(4) Take an active interest in how the patient is progressing toward a regular, well-balanced diet. The individual's experience in regulating the colostomy will be the best guide for selection of food. He will find that some foods cause loose stools or produce excessive amounts of gas, and he will learn to avoid these. Encourage him to ask questions of the dietitian and to follow dietetic recommendations when selecting foods on his diet slip.

(5) Be interested in him as a person who incidentally happens to have a colostomy. Do not permit care of the colostomy to dominate his overall nursing care.

c. Explanation of Procedure for Irrigation and


① BELT AND BAG ASSEMBLY IN PLACE OVER STOMA.
② REPLACEMENT BAG HELD ON RING BY ELASTIC BAND.
③ COMPONENTS OF SET.

Ⓐ USE OF DISPOSABLE PLASTIC BAG APPLIANCE


① USE OF COLOSTOMY APPLIANCE.
② IRRIGATING BAG AND HOLDER.
③ COMPONENTS OF SET.

Ⓑ IRRIGATION APPLIANCE

Figure 5-69. Use of colostomy appliances.

Dressing. The procedures discussed are those for the early convalescent period while the patient is learning to be self-sufficient. The purposes of the procedures are to cleanse the colon; to establish regularity; to keep the patient clean, dry, and odor free; and to prevent excoriation of the skin around the stoma.

(1) *Irrigation procedure*. The medical officer prescribes the solution (usually tap water), the interval (usually daily), and the occasion, if there are 2 loops, when the distal loop is to be irrigated.

(2) *Dressing procedure*. After the incision has healed, the dressing is a nursing responsibility. Clean dressing materials are assembled on a tray and kept at the bedside. Dressings are changed as often as necessary; soiled dressings are removed from the patient's area stat. Fluff gauze is used over the stoma because it is more absorbent than compresses, and ABD pads are placed as the external dressing. The amount of drainage between irrigations is the determining factor for the dressing requirement; *for example*, drainage from a colostomy which is proximal to the small intestine will be more profuse and more irritating to the skin than will drainage from a colostomy that is located more distal to the ileum.

(3) *Use of gloves*. Plastic or rubber gloves may be used when drainage is very profuse and the dressing and irrigation procedures are unusually messy. The gloves should be eliminated when possible to help the patient overcome his sensitivity to this so-called "dirty" procedure.

(4) *Handwashing*. The patient should always be provided with handwashing facilities when he assists with his own dressing and irrigation. Personnel can help reinforce good habits in patients by consistent demonstration of their importance.

d. Individual Dressing Tray Equipment. Suggested items to be kept available at the bedside of a patient with an unregulated colostomy include the following:

Tray, instrument, CRS
Large cotton balls, pkg
Fluff gauze, pkg
4- by 8-in. gauze, pkg
ABD pads, small, pkg
Applicators, cotton tipped
Solution bowls, CRS, 2
Stoma bag device (commercial)*
Protective ointment or spray, as prescribed
Tissues, facial or toilet
Paper bags
Plastic gloves, disposable, pkg.
Plastic-backed pads
or
Small rubber treatment sheet
Montgomery straps, 2 pr.
Surgical soap, plastic container

e. Irrigation Equipment. The colostomy irrigation tray is similar to the routine enema tray, with size of the catheter determined according to individual patient requirements; sizes 16 or 18 Robinson (round tip) catheters are often used. When a commercial irrigating device is not available, assemble the following items for a colostomy irrigation:

Enema tray, as above
Solution, as ordered
Emesis basin
Bedpan, with paper cover
Surgical lubricant
Finger cot
Irrigating stand
Handwashing basin, soap, towel
Plastic-backed paper pads
or
Rubber treatment sheet with cover

PROCEDURE

1. Provide privacy. The entire procedure is lengthy (one hour or more).
2. Set up equipment at bedside. Adjust irrigating stand so that the irrigator will be suspended about 18 inches above the stoma. Place both dressing and irrigating trays so they will be convenient to use.
3. Turn patient toward side of stoma. Elevate head gatch about halfway.
4. Place protective sheet or pad so as to protect the bedding.
5. Remove soiled dressings. Place immediately in paper bag for disposal.
6. Cleanse skin and stoma gently with cotton balls (which are less irritating to the skin and mucous membrane than gauze squares) and soap and water. Use moistened applicator sticks p.r.n. to cleanse crevices around stoma and skin edges. Use a dilute soap solution and rinse with tap water. Pat dry with gauze.
7. Dilate stoma, if ordered. This procedure prevents shrinkage of the stoma as it heals.

* Stoma bag device, when available, includes a supply of plastic disposable bags to be used instead of gauze dressings. Skin care around the stoma continues to be essential.

NOTE

Instruct the patient how to do it when he is ready for self-care.

Insert forefinger covered with a well-lubricated finger cot gently into opening. Never use force. Gently rotate the finger in the opening for about 1 minute.

CAUTION

If finger cannot be inserted easily, notify head nurse or doctor.

8. Irrigate colostomy.

a. *Proximal loop procedure.*

(1) Place the bedpan at the patient's side to catch the return flow. Fit the curve of the bedpan to the patient's side. Do not attempt to use a small emesis basin.

(2) Lubricate the end of the catheter liberally.

(3) With the catheter over the bedpan, unclamp tubing and allow a small amount of solution to run through to expel air. Pinch tubing and position catheter at stoma.

(4) With the solution running, insert the catheter gently into the stoma and advance it into the proximal loop about 4 to 6 inches.

(5) Allow about 500 to 700 ml. of solution to enter the colon slowly. If cramps result, stop the irrigation temporarily. Feces may start to return before all solution runs in.

(6) Before withdrawing the catheter, shield the area from forceful expulsion of fluid and feces by holding an ABD pad just above the stoma. Pinch the catheter and withdraw it while the bottom of the irrigator still contains some solution.

(7) Allow 20 to 30 minutes for return of fluid and feces. Make the patient as comfortable as possible. If necessary to leave bedside area, leave signal cord within reach.

(8) Return upon signal and remove and discard bedpan contents.

(9) Cleanse skin and stoma. Apply protective ointment or spray to clean, dry skin.

NOTE

An aluminum-base ointment or silicone spray may be ordered. These preparations are sometimes difficult to remove as required for adequate skin cleansing. However, an effective way to remove residue is to wipe gently with mineral oil. Apply fluff gauze in adequate numbers. Cover with ABD pad. Secure Montgomery straps, check skin area on which straps are applied; always remove soiled straps and replace with clean.

(10) Leave patient in comfortable position.

(11) Remove and clean all equipment. Clean and reset patient's dressing tray; return tray to bedside, ready for use. Place patient's name on irrigating tray and store in utility room, replacing irrigator and catheter from CMS.

(12) Record treatment, results, and condition of skin and stoma on nursing notes.

b. *Distal loop irrigation.*

CAUTION

This is done only on doctor's order.

(1) Place patient on a bedpan.

(2) Lubricate the end of the catheter liberally. Insert lubricated catheter gently into distal stoma as in the proximal loop procedure.

(3) Allow prescribed amount of solution to enter slowly. Remain with the patient while it is expelled through the rectum. Use the emesis basin if some solution returns through the stoma. If severe cramping occurs, stop the procedure.

(4) After removing the bedpan, turn patient on side and wash and dry the anal area.

(5) Note and report returns from distal loop.

Section VIII. THERAPEUTIC PROCEDURES—GENITOURINARY TRACT

5–84. Catheterization of the Urinary Bladder

Catheterization is the insertion of a catheter through the urethra into the urinary bladder to withdraw urine. Because of the danger of introducing infection or producing injury by faulty technique, local policy may require that the procedure be done only by a doctor or professional nurse. If this is not the policy, only the fully qualified enlisted specialist is usually authorized to catheterize a patient and he must be supervised. Without exception, catheterization is done only on order of the medical officer, and aseptic technique is essential. Male patients are catheterized by a doctor, a male nurse, a clinical specialist, or a trained male medical specialist; female patients by a doctor, a female nurse, a female clinical specialist, or a trained female medical specialist.

EQUIPMENT

Catheterization tray, sterile (See note)
Gloves, sterile
Skin detergent-disinfectant solution, as prescribed
Flask of sterile water p.r.n.
Lubricant, surgical, sterile
Emesis basin, unsterile
Protective sheet and cover for the bed, or plastic-backed paper pad
Protective drape sheet for the patient
Transfer forceps
Specimen label and laboratory request form (SF 514a (Urinalysis, and SF 514k, Bacteriology) if specimen is sent for culture and sensitivity)
Floor lamp, adjustable
Portable screen p.r.n.
Kelly forceps p.r.n.

> **NOTE**
>
> A commercially packaged stock item set may be used (fig. 5–70Ⓐ) or a standard catheterization set may be assembled in CMS (fig. 5–70Ⓑ); in addition, a Foley retention catheter and drainage set (fig. 5–70Ⓒ) may be required. Obtain sterile equipment from CMS.

PROCEDURE

Male Catheterization

1. Assemble equipment in the workroom.
2. Take the drape sheet, protective sheet, and floor lamp to the patient unit.
3. If the patient is weak or irrational, arrange to have an assistant, since vigilant support is needed if the patient cannot cooperate or respond to instructions.
4. Explain the procedure briefly to the patient and state that there will be no pain—only a slight discomfort.
5. Screen the unit.
6. Place patient in supine position. Remove pajama trousers. Cover him with the drape sheet and fold back top bedding to his knees. Place covered protective sheet under his buttocks and upper thighs.
7. Place the lamp on the far side of the bed, adjusting the light to shine on the perineal area.
8. Provide a convenient work area toward the foot of the bed. Move the bedside stand to this position or, if no other alternative is possible, use the foot of the bed.
9. Go back to workroom. Wash hands.
10. Maintaining aseptic technique, uncover the sterile tray. Use hands for the corners of the outer wrapper; use transfer forceps for handling all inner contents.
11. Pour the prescribed detergent-disinfectant solution (usually a 1:1000 solution of benzalkonium chloride (zephiran) or 2-percent surgical soap) over four cotton balls in the solution bowl. (If surgical soap is used, pour sterile water into the solution cup or medicine glass.)
12. Squeeze a liberal amount of surgical lubricant on a 4- by 4-inch gauze sponge.
13. Maintaining aseptic technique, recover the tray.
14. Carry the prepared tray, transfer (or Kelly) forceps, sterile glove package, and the emesis basin to the patient unit. Place this equipment on the prepared work area.
15. Fold back the drape sheet to expose the patient's pubic area and thighs. Tell the patient to keep his hands above his head. Encourage him to relax and to breathe slowly and regularly to reduce tension. Separate his thighs slightly.
16. Adjust the light.
17. Place the unsterile emesis basin on the protective sheet on the operator's side of the near leg away from the sterile field. This is for waste.
18. Uncover the tray. Using transfer (or Kelly) forceps, remove the sterile folded towel. Grasping one corner in each hand, open the

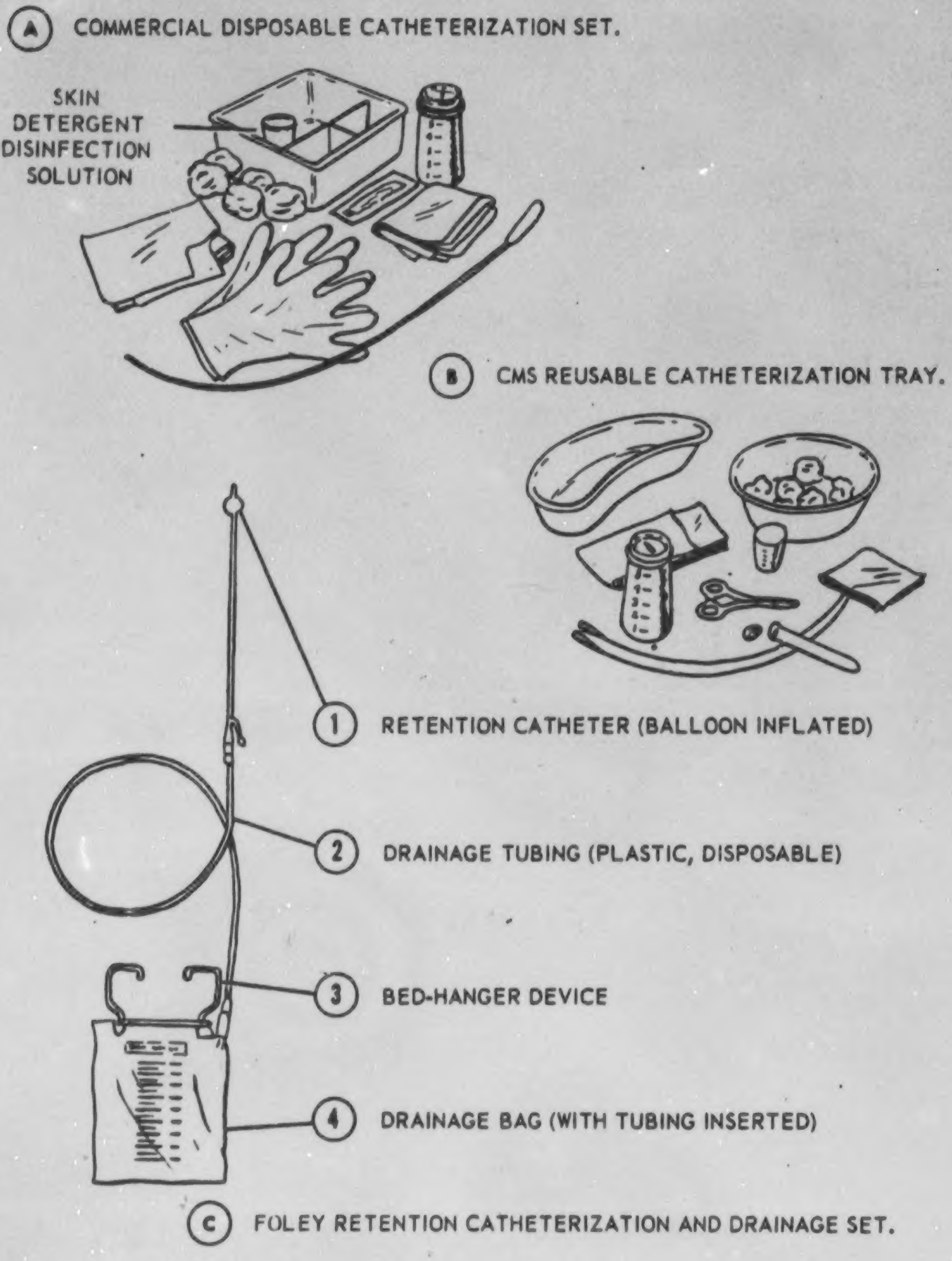

(A) COMMERCIAL DISPOSABLE CATHETERIZATION SET.
SKIN DETERGENT DISINFECTION SOLUTION
(B) CMS REUSABLE CATHETERIZATION TRAY.
(1) RETENTION CATHETER (BALLOON INFLATED)
(2) DRAINAGE TUBING (PLASTIC, DISPOSABLE)
(3) BED-HANGER DEVICE
(4) DRAINAGE BAG (WITH TUBING INSERTED)
(C) FOLEY RETENTION CATHETERIZATION AND DRAINAGE SET.

Figure 5-70. Examples of catheterization sets.

towel. Place it across the lower thighs well away from the pubic area. Use care to protect the exposed sterile surface.

19. Put on sterile gloves.

20. Cleanse the urinary meatus in the following manner: With the gloved left hand, grasp the penis just behind the glans with thumb and forefinger and retract the prepuce (foreskin). Maintain this support of the penis until the catheter has been introduced and the urine starts to flow.

21. With the gloved right hand, pick up the Kelly forceps from the tray, and using the forceps and one saturated cotton ball at a time, cleanse the meatus and the glans. Do not contaminate the right hand. Start at the meatus and make one circular motion with each of the four cotton balls, discarding each one as used into the waste basin. (If surgical soap is used, follow the cleansing with water-saturated cotton.) Discard the forceps into the waste basin.

NOTE

An alternate method of cleaning eliminates the use of the Kelly forceps. This means that the right hand would be contaminated. In this case, change gloves after cleaning process.

22. Being especially careful not to contaminate the gloved right hand, carefully pull the sterile towel up into position over the scrotum and under the shaft of the penis.

23. Pick up the sterile basin from the tray and place it on the sterile towel.

24. Pick up the appropriate size catheter, holding it about 3 inches from the tip (fig. 5–71). Loop excess, supporting it with the right-hand fingers. Lubricate the tip liberally.

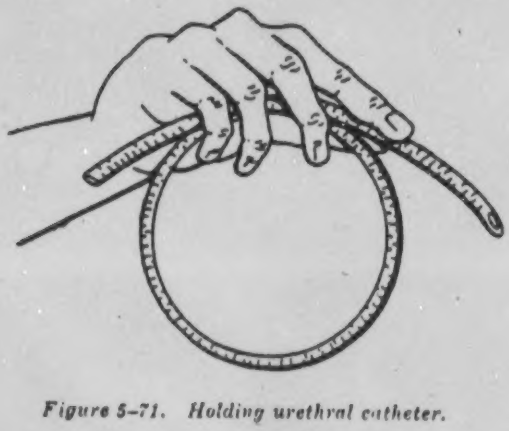


Figure 5–71. Holding urethral catheter.

25. With the left hand supporting the glans, elevate the penis to a 60-degree angle to pubis. Maintain gentle traction on the penis while inserting the catheter.

26. Insert the lubricated tip into the meatus, using gentle, steady pressure. Increase the pressure slightly when slight resistance is felt as the catheter advances through the urethra (fig. 5–72Ⓐ); this resistance point is at the internal sphincter. As the catheter again advances, lower the penis (fig. 5–72Ⓑ) and insert the catheter into the bladder. Urine will begin to flow. Do not insert the catheter more than a total of 7 inches.

CAUTION

Do not attempt to force the catheter if continued resistance is felt to initial gentle, steady pressure; there may be a stricture (abnormal narrowing) of the urethra along the shaft of the penis or at the prostatic juncture. If difficulty is encountered, withdraw the catheter and notify the head nurse or doctor stat.

27. Direct the urine flow into the sterile basin.

28. If a specimen is required, collect approximately 120 ml. (after the initial flow) into the specimen bottle from the tray.

CAUTION

Hold the bottle at the bottom. Do not touch the catheter with the bottle. Place the collected specimen on the tray and cover it with the sterile cap.

29. When urine ceases to flow, pinch off the catheter and gently withdraw it. Replace the retracted foreskin p.r.n.

Female Catheterization

1. Assemble equipment in the workroom.

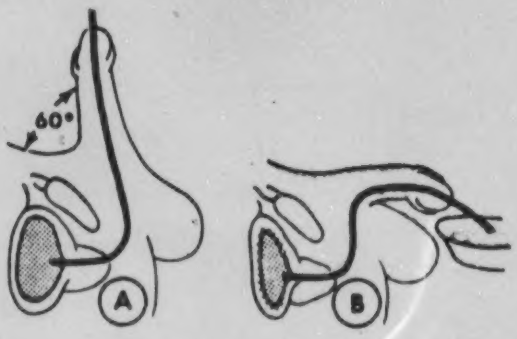


Figure 5–72. Inserting the catheter (male).

2. Take the drape sheet, protective sheet, and floor lamp to the patient unit.
3. If the patient is weak or irrational, arrange to have an assistant, since vigilant support is needed if the patient cannot cooperate or respond to instructions.
4. Explain the procedure briefly to the patient; state that there will be no pain, only a slight discomfort.
5. Screen the unit.
6. Put patient in supine position. Place the drape sheet in a diamond shape over her (fig. 5–32), with the top corner at her chin and the bottom corner toward the foot of the bed. Fold the top bed clothes to the foot of the bed.
7. Place patient in dorsal recumbent position (knees flexed, thighs separated, feet flat on the mattress). Drape her thighs and legs with the right and left corners of the sheet, tucking the free edges under her feet.

   NOTE

   Do not fold back the bottom corner to expose the vulva until ready to start the catheterization.
8. Place the lamp on the far side of the bed, adjusting light to shine on the perineal area.
9. Provide a convenient work area toward the foot of bed. This may be the bedside stand or, if no other alternative is possible, the foot of the bed.
10. Go back to the workroom. Wash hands.
11. Maintaining aseptic technique, uncover the sterile tray. Use hands for the corners of the outer wrapper; use transfer forceps for handling all inner contents.
12. Pour the prescribed detergent-disinfectant solution over four cotton balls in the solution bowl. (If surgical soap is used, pour sterile water into the solution cup or medicine glass.)
13. Squeeze a liberal amount of surgical lubricant on a 4- by 4-inch gauze sponge.
14. Maintaining aseptic technique, recover the tray.
15. Carry the prepared tray, transfer forceps, sterile glove package, and the emesis basin to the patient unit. Place this equipment on the prepared work area.
16. Fold back the drape sheet to expose the vulva. Encourage patient to relax and to breathe regularly and slowly to relax tension.
17. Adjust the light.
18. Place the unsterile emesis basin on the protective sheet on the operator's side of the near leg away from the sterile field.
19. Uncover the tray. Using transfer forceps, remove the sterile folded towel. Grasping one corner in each hand, open the towel. Place the sterile towel between the patient's thighs, pulling the top edge just under the buttocks. Use care to protect the exposed sterile surface.
20. Put on sterile gloves.
21. With the gloved left hand, separate the labia to expose the urinary meatus (fig. 5–73).

   NOTE

   If there is edema of the vestibule, the meatus may be difficult to identify; it should be visible as a small opening about ¼ inch above the vagina.

   Keep left hand in position, holding the labia apart until the catheter has been inserted. Remember, the left gloved hand is no longer sterile.
22. With the right gloved hand, pick up the forceps from the tray. Using the forceps, pick up a saturated cotton ball from the four balls in the solution basin and with no retracing, cleanse the meatus and vestibule from above downward. Discard each cotton ball in the waste basin. Discard forceps into the basin following use of the last cotton ball.
23. With the gloved right hand, pick up the sterile basin and place it on the sterile towel, close to the buttocks and below the separated labia.

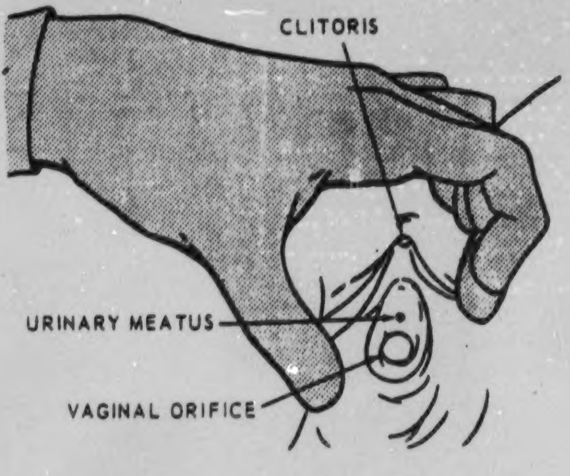


Figure 5–73. Separation of labia.

24. With the gloved, sterile right hand, pick up the catheter, holding it about 3 inches from the tip (fig. 5-71). Lubricate it.
25. Insert the catheter into the meatus about 2 inches, or until the urine starts to flow. Do not use force if there is resistance. Do not insert more than 2 inches.
26. Direct the urine flow into the sterile basin.
27. If a specimen is required, collect approximately 120 ml., after the initial flow, into the specimen bottle from the tray.

CAUTION

Hold the bottle at the bottom. Do not touch the catheter with the bottle. Place the collected specimen on the tray and cover it with the sterile cap.

28. When the urine ceases to flow, pinch off the catheter and gently withdraw it.

CARE OF PATIENT AND EQUIPMENT AFTER CATHETERIZATION

1. Place the catheter and the basin of urine on the tray. Remove all other equipment from the bed.
2. Leave the patient dry, covered, and comfortable.
3. Remove all equipment from the bedside. Measure total amount of catheterized urine. If a laboratory specimen is required, identify the specimen as "catheterized" on the laboratory request form.
4. Clean up equipment. Discard disposables and rinse and return reusables to CMS.
5. Record procedure and total amount of urine obtained.
6. Send properly identified specimen to the laboratory p.r.n.

5-85. Retention (Indwelling) Catheterization and Urinary Bladder Drainage

A retention (indwelling) catheter is ordered to permit continued drainage of the urinary bladder without repeated catheterization. The catheter commonly used is a self-retaining urethral catheter (Foley type, fig. 5-70©). This has a double lumen, with one opening for drainage and the other for inflation of the retention device, which is a small balloon at the tip of the catheter. The retention balloon is inflated with a measured amount of sterile water (or air) following its placement in the bladder. When a retention catheter is used, provision is usually made for blad drainage by means of a drainage tubing connected to a urine collecting bottle or a plastic drainage bag. The policy may be that only a medical officer or nurse inserts and inflates the retention catheter. Following insertion of the catheter, it is usually a nursing responsibility to set up and maintain the drainage system. Aseptic technique in maintaining urinary drainage is required since the patient is exposed to a source of chronic irritation from the indwelling catheter and is therefore more susceptible to any source of infection.

EQUIPMENT

NOTE

A sterile, commercially prepared, stock item, disposable catheterization pack for use in inserting an indwelling catheter may be available. This pack differs from the routine catheterization pack, containing a self-retaining catheter, a syringe and a plastic drainage tubing set (fig. 5-70©). When this commercial item is not available, use the basic catheterization tray obtained from CMS, plus the following additional items:

Self-retaining catheter, designated size (usually number 16 to 18 French)
Sterile water
Sterile syringe, 10 ml.
Sterile hemostat
Surgical thread (if catheter does not have self-sealing device)
Gauze compress, dry, sterile, 2 by 2 inches
Adhesive tape
For straight (gravity) drainage add:
Sterile drainage tubing and bottle set (plastic disposable or CMS reusable)
Safety pins
Rubber bands
Drainage bag holder

PROCEDURE FOR PLACEMENT OF RETENTION CATHETER

1. Assemble the equipment as for the catheterization procedure.
2. Prepare the patient as for the catheterization procedure (para 5-84).
3. Using aseptic technique, complete preparation of the catheterization tray, adding p.r.n. t sterile syringe, sterile water, sterile self-retaining catheter of required size, 2- by 2-inch gauze, and hemostat.

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4. Prepare to catheterize the patient, but first do this step immediately after putting on the sterile gloves—
   - a. Using sterile gloved hands, check retention catheter for defects by injecting the specified amount of sterile water into the balloon lumen. The capacity of the balloon is written on the catheter.
   - b. Deflate the balloon before proceeding with the catheterization.
5. Insert the catheter as for a routine catheterization.
6. Inflate the catheter balloon after inserting the catheter. Inject the required amount of sterile water (or air) into the balloon lumen. Clamp off the balloon lumen temporarily with the hemostat before disconnecting the syringe. Insert the self-sealing lumen device, if available. If this sealing-off plug is not used, close off the balloon lumen by fastening it securely with surgical thread. This closure is preferable to continued use of a clamp which may cause injury through continued pressure on the patient's skin. When properly positioned and inflated, the balloon lies within the bladder at the bladder outlet, not in the urethra.
7. Clamp off the catheter and protect the open drainage lumen temporarily. Cover the end of the catheter with a dry sterile gauze square, and fasten it with an elastic band.
8. Secure the catheter in place with adhesive.
   - a. For female patients, anchor the catheter to the skin of the inner thigh, placing the adhesive toward the groin.
   - b. For male patients, use the thigh also unless the medical officer specifies that the penis is to be positioned upward on the pubis, with the catheter anchored to the lower abdomen; this position helps prevent urethral edema.
9. Connect the catheter to the urinary drainage tubing and drainage bottle, maintaining sterility of the drainage system.
   - a. Connect the open end of the drainage tubing to the catheter. Use glass or clear-plastic connecting tubes so that the color of the draining urine can be observed. (The collected urine in the collecting bottle undergoes changes as it becomes stale, and therefore its appearance is less reliable.)
   - b. Unclamp the catheter.
   - c. Adjust tubing from the catheter to the drainage bottle so that there are no kinks and no loops of tubing extending below the level of the entrance of the tubing into the bottle (fig. 5-74). This is essential for effective gravity drainage.
   - d. Check the air-vent opening in the bottle or plastic bag closure. The vent must be open to insure drainage from the closed body cavity (the bladder).
   - e. Loop an elastic band around the drainage tubing, and pin this loop to the foundation bedsheet. There should be no strain on the catheter and just enough length of tubing (about 40 inches) to enable the patient to turn and move freely.
   - f. Place the drainage container at the designated level below the bedframe. Secure a plastic container in a standard wire holder, suspended from the bed. If no holder is available for a glass bottle, suspend it by tying it to the bedframe with loops of bandage. As a general rule, do not place the urinary system drainage bottle on the floor, because the length of tubing leading from the bladder would be excessively long and cause too much pressure within the bladder.

FOLLOWUP CARE

The retention catheter and drainage system may be continued for days, weeks, or indefinitely. As a general rule, the retention catheter is changed weekly, or as ordered by the medical officer. Daily continuing care of the patient and the equipment includes the following essentials:

1. Maintain an accurate intake and output record. Unless otherwise ordered, encourage the patient to drink at least 3000 ml. fluids daily to provide an effective "internal irrigation" system for the bladder, catheter, and drainage tubing.
2. Observe the tubing and catheter connections frequently for kinks, and make sure the patient is not lying on the tubing. This both obstructs drainage and causes undue pressure area on the skin.
3. Maintain cleanliness and protect the urethral meatus. This requires direct observation and specific hygiene measures. Wash the perineal area carefully, from front to back. Cleanse the urinary meatus around the catheter with sterile sponges moistened with prescribed disinfectant-detergent solution. Remove secretions of mucus and other discharges gently but thoroughly to help reduce irritation and possible

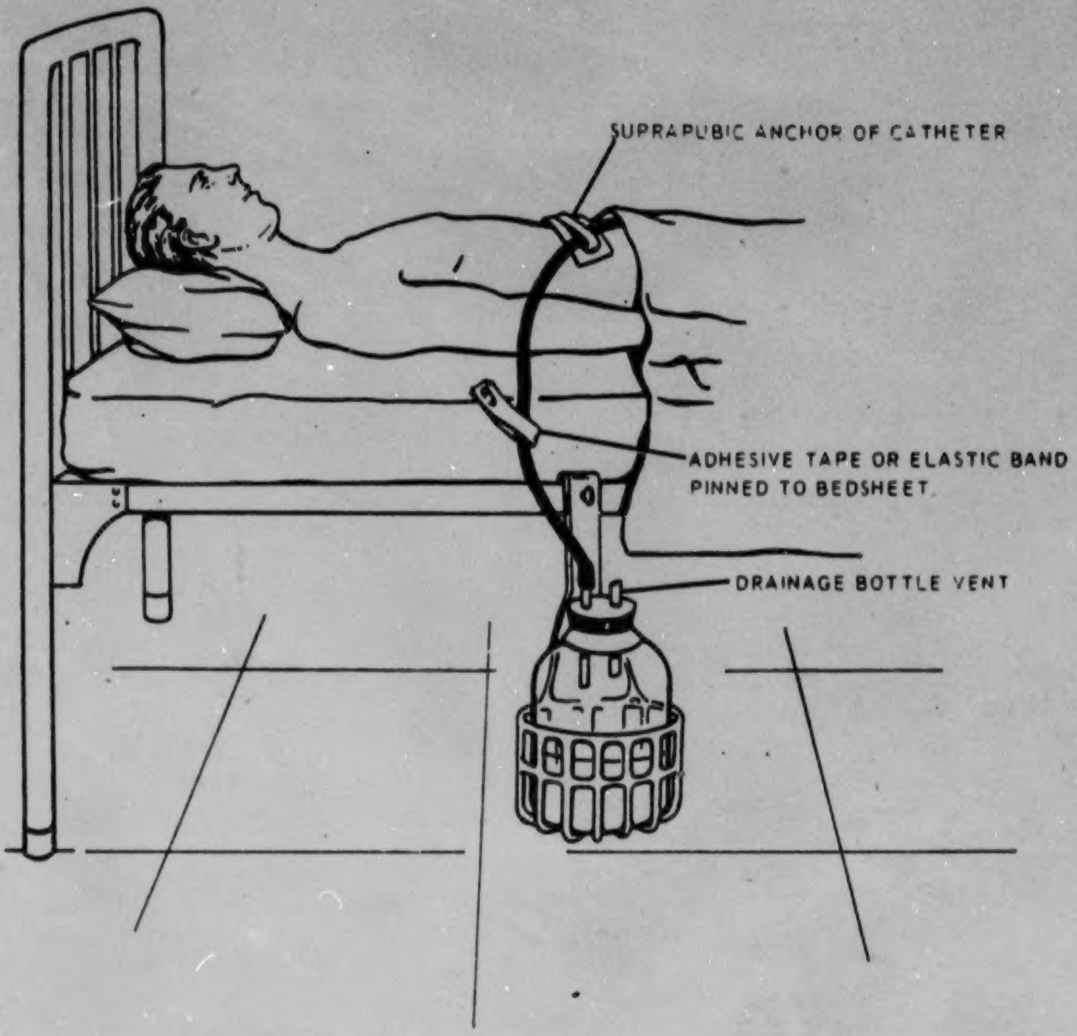
SUPRAPUBIC ANCHOR OF CATHETER
ADHESIVE TAPE OR ELASTIC BAND PINNED TO BEDSHEET.
DRAINAGE BOTTLE VENT

Figure 5-74. Urinary drainage, gravity method.

infection. An antibiotic ointment such as bacitracin may be ordered to be applied to the cleansed meatal area around the catheter.

4. Replace the drainage set (tubing, connector, and bottle) with a sterile one daily to reduce bacterial growth and odor.
5. Measure and record the collected output. Never permit the drainage bottle to become more than three-fourths full in order to prevent any possibility of the tubing outlet becoming immersed in the draining urine.
6. Use aseptic technique in disconnecting the catheter from the drainage tubing. Disconnection is necessary when the drainage set is replaced, a specimen is collected, or the catheter is irrigated.

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a. Wash hands.

b. Before disconnecting, clamp the catheter. (A hemostat clamp may be used, with the tips rubber shod (covered with rubber tubing) to prevent damage to the catheter. Hemostat clamps for this purpose are obtained as discards from CMS or the OR.) Be sure to unclamp the catheter after reconnecting it to the drainage tubing.

c. As the catheter is disconnected, wipe the end of both the catheter and the connector with an individual germicide-saturated sponge. Cover the ends of both catheter and connector with a dry, sterile sponge, securing each with a rubber band. Do not allow the drainage tubing to fall to the

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floor. If this should occur, the tubing is contaminated and must be replaced.

7. Provide continued gravity drainage for the ambulating patient. The patient may carry the drainage bottle, or a smaller plastic collecting bag may be strapped to his leg. Check to see that the tubing is not excessively long and looped below the level of the bottle when he is standing upright. Readjust and reconnect the drainage tubing when the patient returns to bed.
8. To collect a urine specimen from the patient with a retention catheter, obtain the urine from the catheter, not the tubing or drainage bottle. Collect the required amount in a sterile collection bottle. Record this amount on the I & O worksheet.

REMOVAL OF RETENTION CATHETER

Change the catheter on order, usually at least once weekly. The order may be to remove the catheter and then to replace it following several hours interval to relieve pressure on the urethra. Remember—

1. Always deflate the balloon of a self-retaining catheter before removal.
2. Use aseptic techniques for any procedure involving the urethra and bladder. Each catheterization is a potential source of injury and infection if not performed properly.

5-86. Irrigation of the Bladder and Retention Catheter—Open Method

Irrigation of the bladder and retention catheter is ordered primarily to wash out the catheter and prevent obstruction. Bladder irrigation through the retention catheter is done by two methods: open irrigation, using an asepto syringe, and closed (intermittent) irrigation, using a sterile irrigating flask and tubing system. The open method is usually ordered when the irrigation is to be done a few times only; the closed method is ordered when the irrigation is required at scheduled intervals for a catheter remaining in place over a period of several days or longer. Both open and closed methods are sterile procedures and both must be done gently to prevent injury and spread of infection within the bladder.

EQUIPMENT

Sterile asepto (bulb) syringe, 30 ml.
Sterile solution basin
Flask of prescribed sterile solution
Sterile towel
Sterile sponges, germicide-saturated and dry, to protect connector
Hemostat, rubber-shod
Gauze compresses, 2- by 2-inch
Elastic bands
Emesis basin

PROCEDURE

1. Open the sterile packages. Pour the prescribed solution, which must be at room temperature, into the basin. Fill the asepto syringe.
2. Open the sterile towel halfway. Place to one side of the catheter-connector attachment.
3. Clamp off the catheter, detach the connector, and place the end of the catheter on the sterile towel. Protect the open connector with the gauze sponge and rubber band.
4. Insert the tip of the asepto syringe into the catheter. Unclamp the catheter. Allow the solution to run in slowly with only gentle pressure on the syringe bulb. Refill syringe once or twice, pinching off the catheter while removing and replacing the syringe. Unless otherwise ordered, allow 50 to 100 ml. of solution to flow into the catheter at one time. Do not aspirate the irrigating fluid back unless ordered to do so. To check return flow, pinch the catheter closed, remove the syringe, and invert the end of the catheter over the emesis basin. Continue irrigation until the return is clear.
5. Reconnect the catheter to the tubing. Observe return through the glass connector. If the irrigating fluid flows in readily but fails to return, a clot may be obstructing the catheter opening. Do not add additional fluid, but try to dislodge the clot by gently squeezing or "milking" the tubing just below the connector. If there is still no return flow, notify the nurse or doctor.
6. Record time and total amount of irrigation in intake column of I & O worksheet. Measure and record amount of return, if any, in the emesis basin. Subtract the total amount of irrigating fluid from the output total in the drainage bottle.

5-87. Irrigation of the Bladder and Retention Catheter—Closed or Intermittent Method

EQUIPMENT

Sterile Y-vent irrigation set from CMS
Flask of prescribed sterile solution, 1000 ml.
Sterile drainage bottle, 1-gallon size, graduated in ml., from CMS

Irrigating stand
Emesis basin
Drainage bottle holder or footstool
Rubber band
Safety pin

NOTE

The contents of the sterile Y-vent irrigation set may vary, depending upon the type of irrigating flask used. A commercially prepared IV-type flask is recommended and the procedure described for the closed irrigation is based on the use of this type of equipment.

As prepared in CMS, the sterile items in the set will include—

Glass drip regulator, 1*
Y-tube glass connector, 1*
Straight glass connectors, 2*
Lengths of latex tubing, 3*: one 4-foot length; one 2-foot length, with glass connector inserted midway its length; one 1½-foot length
Hoffman clamps, 2
2-hole bottle cap with two short pieces of glass tubing, 1

PROCEDURE (FOLEY CATHETER IN PLACE)
(fig. 5–75)

1. Clamp off the Foley catheter.
2. Place equipment on a wheeled table or other suitable work area at the patient's bedside.
3. Prepare the irrigating flask, following instructions on label.

CAUTION

Check label as for medications.

4. Place one Hoffman clamp on the 4-foot length of tubing, below the drip regulator. Close the clamp. This length is the in-flow tube.
5. Place one Hoffman clamp on the 2-foot length of tubing, above the glass connector. Close the clamp. This length is the out-flow tube.
6. Insert the 2-hole stopper into the gallon bottle. Connect the free end of the out-flow tubing to one glass tubing in the stopper. The second glass tube is the air vent.
7. Insert the drip regulator into the irrigating flask. Invert the flask and suspend it at the prescribed height above the patient's bladder.
8. Release the clamp on the in-flow tube, allowing fluid to run through the tubing to remove air.

NOTE

The fluid will flow from the straight glass connector on the 1½-foot tubing; hold this connector over the emesis basin. Close the clamp.

9. Place the drainage bottle in the holder or on the footstool.

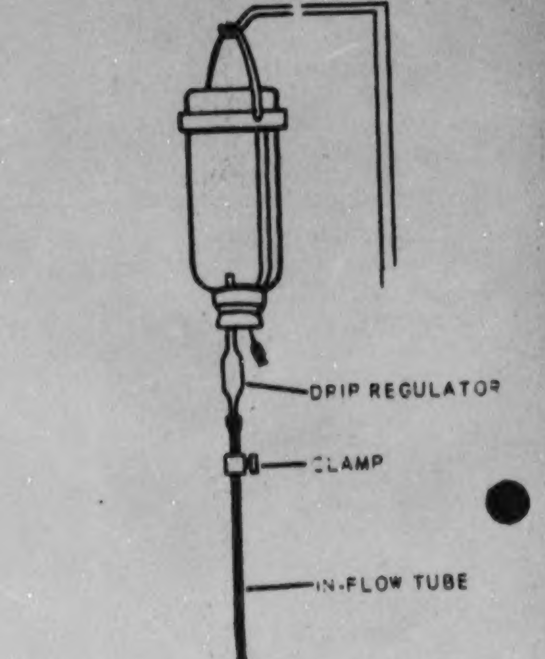

Figure 5–75. Closed bladder irrigation.

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* Assembled as follows: One end of a 4-foot tubing attached to drip end of regulator, other end attached to one arm of Y-tube; one end of 2-foot length of latex tubing attached to other arm of Y-tube; one end of 1½-foot length of latex tubing attached to stem end of Y-tube; glass connector attached to free end of 1½-foot tubing. This preassembly of tubing before sterilization is a safety factor since it reduces handling for use.

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10. Attach the straight glass connector on the 1½-foot tubing to the patient's Foley catheter. Avoid any tension on the catheter.

11. Loop the elastic band around the Y-tube and pin it to the foundation sheet at bladder level.

CAUTION

Do not allow the Y-tube to dangle off the bed; when secured properly, the out-flow will be regulated so that some fluid remains in the bladder at all times. This precaution helps to prevent blood, mucus, or other solid matter from clogging the catheter opening.

12. Open the clamp on the out-flow tube. Open the clamp on the Foley catheter. Allow urine to flow into the drainage bottle before irrigating the bladder. Note color and any sediment, clots, or mucus shreds.

13. To irrigate the bladder:
    a. Clamp off the out-flow tube.
    b. Release the clamp on the in-flow tube.
    c. Allow the prescribed amount of irrigating fluid to flow slowly into the bladder, usually 50 to 100 ml. at one time. Observe fluid calibrations on the flask.
    d. Clamp off the in-flow tube. Unless otherwise ordered, allow irrigating fluid to remain in the bladder about 1 minute.
    e. Open out-flow tube to drain solution. Observe color and character of return in glass connectors.
    f. Repeat these steps (a through e above) p.r.n. until total amount of irrigation solution, in prescribed increments, has been used.

14. Follow specific orders for keeping out-flow tube open or closed following irrigation. Some patients must have constant open catheter drainage, and others must have the catheter clamped and reopened on a definite schedule.

15. Record total irrigation fluid on I & O worksheet.

16. Empty drainage bottle before it is two-thirds full, or as ordered. Record total on I & O worksheet.

17. Change irrigating tubing as ordered—this may be daily or when the catheter is changed.

18. Handle all connections so as to prevent contamination.

19. Keep additional unopened sterile irrigating flasks available for replacement p.r.n.

20. Keep the flask in use at the prescribed elevation.

21. Follow doctor's instructions in regard to teaching and supervising the patient when he is to perform any part of the closed irrigation procedure. (With assistance, the patient may be permitted to carry out step 13.)

Section IX. ADAPTATIONS OF BASIC NURSING CARE—MEDICAL-SURGICAL PROCEDURE

5-88. Caring for the Incontinent Patient

Incontinence is involuntary urinating or defecating. It may be a temporary problem during a period of acute illness when an adult patient is less aware of the sensation of needing to void or to defecate and is too ill to ask for a bedpan or urinal; it may be a continuing disability due to spinal cord injury or disease; or it may be associated with general debility and other problems that may occur with old age. Whatever the cause, there is loss of sphincter control. With urinary incontinence, there is loss of control of the urethral sphincters; with fecal incontinence, loss of control of the anal sphincter. It is a nursing responsibility to provide prompt attention when incontinence occurs. It is essential to establish a routine method for protecting the patient to keep him as clean, dry, and free of embarrassment and anxiety as possible and to prevent bed sores which would otherise inevitably occur.

a. Nursing Measures for Urinary Incontinence.

(1) Place the patient on a bedpan or provide a urinal at frequent and regular intervals. Try to anticipate when voiding may occur. *For example*, half an hour after fluid intake or meal time may be the optimum interval for getting to the patient on time.

(2) Protect the bed with moisture-proof draw sheets and also with large disposable pads (protective pads with absorbent-cellulose inner padding and plastic backing) which can be changed readily when wet or soiled.

(3) Wash entire buttocks, perineum, and thighs with mild soap and warm water each time incontinence occurs. Urine must be completely washed off and not allowed to dry on the skin. Pat the skin dry.

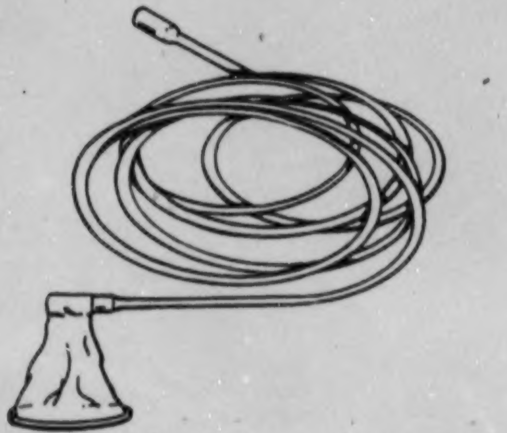
(4) Change bedding as well as protective pads when wet or soiled. Do not use deodorizers as a substitute for cleanliness. If the mattress is soiled, move the patient to an adequately protected clean mattress and exchange the soiled mattress through local supply procedure.

(5) With permission of the doctor, use an external drainage device such as a penile sheath for male patients. Satisfactory methods for keeping female patients dry are difficult to devise other than to use extra large perineal pads and change them frequently. Use of an indwelling catheter may be the only practical way to keep the patient dry; this always requires a medical order.

b. *Male External Urinary Attachment (Penile Sheath)*. This practical method of caring for incontinent male patients has been used by AMEDD personnel in field and fixed hospitals and is often referred to as a "gizmo." The patient is fitted with a condom whose tip is attached to a drainage tube leading to a collecting bottle. The device protects the skin from exposure to urine, facilitates exact determination of urinary output, and prevents soiling of bedding. The following steps are used:

(1) Pull the closed end of a condom securely over one end of a large diameter glass or clear plastic connecting tube and tie, using suture cotton or other thread. If a disposable plastic collecting bag and drainage tubing is used, attach the condom to the connected adapter end of the tubing, as illustrated below.

(2) Perforate the closed end for urine drainage.



(3) Roll the condom onto the clean, dry penis. Leave about one-half inch of the sheath free between the meatus and the connecting tube. Be sure there is no excessive free length, as it will twist and interfere with drainage.

(4) Secure the sheath to the shaft of the penis with adhesive tape, applied so as not to constrict the penis but still prevent leakage of urine.

(5) Connect the glass tube, if used, to drainage tubing. Loop tubing to thigh with adhesive tape to avoid tension on the penis.

(6) Remove and change the sheath at least once daily. Cleanse skin and check the glands and shaft of the penis for any signs of irritation. Do not reapply if irritation is present.

NOTE

External catheters may be available commercially.

5-89. Nursing Care of the Unconscious Patient

a. *General.* Unconsciousness means that the patient is completely unaware of what is going on around him and is unable to make purposeful movements. The basic principle to remember is that the unconscious patient is totally dependent on others for all of his needs. Any omissions [illegible] basic nursing care or any failure to protect the unconscious patient in his helpless state may inhibit recovery or greatly prolong his convalescence because of complications which might have been prevented.

b. *Causes of Prolonged Unconsciousness.* The most common causes include cerebral vascular accident (CVA), commonly known as stroke; head injury due to trauma; brain tumor; or effect of overdosage of a sedative drug. However, the cause frequently is not apparent immediately. Regardless of the cause, basic nursing care measures are an essential part of treatment.

c. *Levels of Consciousness.* Because unconsciousness varies in duration and depth the medical specialist needs to understand terms used in classifying the patient's state of consciousness. Three terms frequently used are:

(1) *Somnolence.* This is unnatural drowsiness. The patient can be aroused by calling his name or by asking him to respond to a command such as sticking out his tongue. He can often answer questions, although he may be confused. He will fall asleep again as soon as he is left alone.

(2) *Semicoma.* This is partial unconsciousness or stupor. The patient can be aroused by painful stimuli such as pinching the skin of his

arm and may respond with a purposeful, protective, withdrawal movement. The stuporous patient may be very restless or combative and must be protected from self-injury.

(3) *Coma.* This is complete unconsciousness, with no purposeful response to sensory stimuli such as pain, pressure, light, sound, or temperature.

d. Nursing Measures and Precautions.

(1) Never give an unconscious patient anything by mouth. A patient who is unconscious for a prolonged period is usually fed food and fluids by gavage.

(2) Maintain an unobstructed airway by proper positioning. Whenever possible, turn the patient on his side and extend his chin to eliminate the danger of the relaxed tongue falling back and closing the airway. This side-lying position is often referred to as the coma position. It is considered to be the only safe position in which to place the patient when an attendant must leave the bedside.

(3) Use pharyngeal suctioning p.r.n. to prevent aspiration of regurgitated tube feeding, mucus, or vomitus. Exercise great care to prevent injury to mucous membranes.

(4) Change the position to a new weight-bearing surface q. 2 h. Be particularly careful about supporting and positioning the limbs in good alinement during the turning procedure, as well as in repositioning. Never allow the arms to be caught and crushed under the weight of the body. Never allow flaccid arms or legs to dangle or drop over the edge of the bed.

(5) Protect the patient from injury. Use bedrails in the up position on both sides of the bed. Pad the rails with pillows, or folded blankets if the patient is restless. Use restraints only on order and only with full precautions to prevent constriction of circulation and damage to the skin (para 5-31). The restless, confused patient will actively resist restraint and thrash about more when he is not permitted some freedom of movement of his arms and legs. Recommended measures to encourage rest and to protect catheters and dressings are the use of mittens or a folded sheet restraint over the knees or chest; if applied over the chest, the restraint must not restrict breathing. Posey's restraints, belts, and vests are very effective with these types of patients.

(6) Give special skin care to prevent pressure sores. If the patient is incontinent, he should be thoroughly washed and dried, and his bed linen changed immediately if wet.

(7) Provide special oral hygiene measures at least q. 2 h. Include the tongue, as well as all tooth surfaces, tooth margins and hard-to-reach, soft tissue areas. The unconscious patient often is a mouth breather, and saliva will dry and adhere to all mouth and tooth surfaces. Always ~~have~~ a suction apparatus immediately available when giving mouth care to the unconscious patient.

(8) Check the eyes frequently for signs of irritation or infection. Neglect can result in permanent damage to the cornea since the normal blink reflex and tear-washing mechanism may be affected. Use only cleansing solutions and eye drops ordered by the doctor. One such solution, methyl cellulose, referred to as "artificial tears," may be ordered for instillation at frequent intervals.

(9) Cleanse and lubricate the vestibule of the nostrils to prevent drying and crusting. Surgical lubricant, a water-soluble compound, may be used; this avoids the danger of aspiration of any oily preparation.

(10) Observe and report on the state of consciousness. Note any changes in response to stimuli and in return of protective reflexes such as blinking the eyelids and swallowing saliva.

(11) Always take a rectal temperature. Hold the thermometer in place.

(12) Report at once any change in vital signs. Sudden changes are danger signals; *for example,* a sudden increase or decrease in blood pressure.

(13) Keep an accurate intake and output record.

(14) Watch for fecal impaction. The patient may be incontinent of stool, yet never completely evacuate the rectum. Small, frequent, loose stools may be the first signs of an impaction as the irritated bowel forces liquid stools around the retained feces. If enemas are ordered, use proper technique to insure effective administration and effective return of feces and solution.

(15) Learn what exercises are to be given to prevent joint contractures. Passive exercises, to include full range of motion (ROM), are usually given under the direction of the physical therapist. Know what followup exercises should be given by nursing personnel.

(16) Keep the room at a comfortable temperature for the patient. Check the warmth or cold-

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ness of the extremities. Never apply heat without a doctor's order. Use soft, lightweight covering, and place the patient between cotton blankets if extra warmth is needed.

(17) Always assume that the patient can hear, even though he can make no response. Tell the patient what you are going to do, addressing him by name. Refrain from any conversation about his condition in his presence or in the room.

5-90. Care of the Dying Patient

a. General. The nursing care of the dying patient is essentially supportive care for physical and mental comfort. All medical orders are carried out, and nursing care is planned as for any seriously ill patient. These plans include consideration of the patient's family, who may be present day or night. The dignified and compassionate way in which all of the patient's needs are anticipated and met helps his family understand that he is receiving the best care possible. If a member of the family wishes to assist in giving nursing care, this can be planned for, if it contributes to patient and family comfort. It is important to remember that the medical officer informs the family of the patient's condition; nursing personnel must consult the doctor in regard to what information may be given to them and to the patient. Nursing personnel should take an interest in the welfare of the family members undergoing this ordeal and encourage them to get rest, regular meals, and sleep.

b. Signs of Approaching Death. Death may come suddenly or after many hours of a gradual slowing down of the life processes. Nursing personnel need to be aware of signs commonly associated with approaching death and need to recognize how these physiologic changes modify nursing needs. In general, the signs listed are related to failing circulation, loss of muscle tone, and loss of reflexes.

(1) *Failing circulation.* Body temperature may be elevated or subnormal. Skin may feel cold and moist, with progressive coldness of the feet and hands. The color of the skin may change, with cyanosis of the lips and nailbeds, and pallor or mottling (blotching) of weight-bearing surfaces of the buttocks and thighs.

(2) *Loss of muscle tone and reflexes.* Difficulty in swallowing, breathing, and ability to clear mucus from the throat may be very noticeable. As the jaw muscles sag, mouth breathing increases. Incontinence of urine and feces is common as sphincter control is lost.

c. Special Nursing Needs.

(1) Environment. If in an open ward, the patient is usually moved to a single room in consideration of his needs and the needs of other patients. If he is conscious, this move to "the quiet room" can be very alarming. To help soothe his alarm, keep his room light, cheerful, well ventilated, and clear of excess equipment. Speak in a natural tone of voice and continue to tell him everything to be done, even though he may appear to be unconscious. The sense of hearing is thought to be present until the end of life, so be alert to comments made within his hearing.

(2) Anticipate his need for privacy. Leave the patient alone with his family or chaplain when appropriate, but stay within call so as to be available immediately in case of need.

(3) Meet all physical needs for hygiene and comfort.

(*a*) *Care for the mouth.* Keep the teeth, mouth, and lips clean and moist. Suction mucus which has accumulated in his throat.

(*b*) *Continue oral intake, if patient is conscious.* Give small amounts of fluid at least every 1 or 2 hours as long as he is able to swallow. Moistening the lips and tongue with ice chips wrapped in gauze will refresh the patient who cannot manage sips of water.

(*c*) *Care for the eyes.* The blink reflex and tear ducts may not function. Protective eye drops may be ordered to keep the eyes moist ("artificial tears" eye drops). Instill these drops and wipe the eyelid margins gently with moistened cotton.

(*d*) *Continue position changes.* Provide support of head and shoulders to ease his breathing. Wash and rub his back with each position change. Use pillow supports for comfort and alinement. Arrange the bed covering to provide warmth, but do not constrict movement.

(*e*) *Provide for incontinence.* Use absorbent, disposable, plastic-backed protective pads, changing them as soon as wet or soiled. Wash soiled skin areas immediately with soap and warm water. Continue to offer the bedpan and urinal to the conscious patient at frequent intervals. (An indwelling catheter may be ordered if the patient is unable to empty his bladder and voids almost continuously in small amounts.)

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5-91. Care of the Dead

The procedure for care of the dead must be in accordance with local policy which, in turn, must conform to county and State laws. In general, nursing responsibilities include three equally important duties: immediate notification of officials within the hospital; consideration for all of the patients on the ward; and preparation of the body of the deceased for transfer to the hospital morgue. Tact and sympathy for the patient's family, when present, must be shown.

a. At Time of Apparent Death. The specialist notifies the ward nurse or medical officer immediately if the patient has apparently ceased breathing. He does not touch the body until the medical officer has made his examination and pronounced the patient dead. The specialist notes the time when absence of pulse and respiration were observed and when the medical officer was notified. He also screens the patient from the view of other patients if this has not been done previously.

b. On Pronouncement of Death. Certain procedures are followed, in accordance with the details outlined in the local policy manual, after the patient is pronounced dead by the medical officer. In most instances, nursing personnel are responsible for—

(1) Notifying (by telephone) the registrar, chaplain, nursing office, and laboratory section in charge of the morgue.

(2) Assisting the administrative officer of the day (AOD), representing the registrar, in the inventory of all possessions of the patient. Nursing personnel may assist with the inventory and witness the property slip. The AOD takes charge of all possessions.

(3) Obtaining the ward "death pack," a preassembled unit containing a wrapping sheet, absorbent cotton and other padding, bandage rolls, safety pins, etc. Three identification tags (DA Form 8-219 (Death Tag)) are usually included with this pack. These tags must be signed by the medical officer before they are attached to the body.

(4) Delaying preparation of the body for the morgue until it has been determined whether or not relatives wish to see it. The medical officer, the nurse, or the chaplain, depending upon the situation, contacts the next of kin. The specialist finds out exactly what steps are to be followed if delay in preparing the body is indicated. The steps listed in the procedure below are a guide for the care of the body after death.

INITIAL CARE

Until permission for final ward care is received, the following steps may be allowable:

1. Lower the head rest, leaving one pillow.
2. Place the body in a natural position, with arms at the side, palms turned toward the thighs. Straighten top bed covers.
3. Close the eyelids gently.
4. Replace clean dentures p.r.n. Close the mouth gently.
5. Remove all treatment equipment from the patient unit such as IV stand, oxygen, or suction equipment.

FINAL CARE

Two individuals, one a senior, experienced person, should be assigned to carry out these final nursing care duties. If the deceased patient was female, female personnel care for the body.

Equipment

To equipment required for a bed bath (para 5-26) add:

The preassembled nursing service "death pack"
Stretcher
Sheets, 2
Litter straps, 2
Laundry hamper
Large paper bag
Sign for room door, "DO NOT ENTER"

Procedure

1. Follow steps for initial care 1 through 5 above if not done previously.
2. Remove all top bedding except for a drape sheet.
3. Remove pajamas.
4. Remove any dressings, drainage tubing, or catheters. Clean old adhesive markings from skin. If wounds are draining, place minimal clean gauze pads fastened with minimal amount of adhesive tape on wounds.
5. Bathe body gently.
6. Press gently on bladder to expel accumulated urine. Form large pad of cotton and ABD pads and place over rectum and genitalia to absorb feces and urine which will be expelled as sphincters relax. Hold pad in place with bandage T-binder.

NOTE

The pathology section of the local hospital will specify whether perineal body openings are to be packed with cotton in addition to external padding.

7. Prop sagging jaw with folded ABD pads.

CAUTION

Bandage ties may mar the face and, if used, must be padded well with absorbent cotton.

8. Pad ankles with cotton and tie together with bandage.
9. Tie one signed tag (DA Form 8-219) to right great toe. Tie second signed tag to left wrist.
10. Roll body gently to side of the bed. While assistant supports it, place one clean sheet diagonally under the body.
11. Roll body back to center of the sheet.
12. Fold upper corner of sheet loosely over the head and face with lower corner over the feet. Secure the arms at the side as the right and left corners of the sheet are brought over to complete the wrapping. Fasten sheet with safety pins.
13. Fasten third signed tag to outside of sheet. If dentures could not be replaced, wrap in gauze, identify, and pin dentures next to tag.
14. Lift wrapped body to stretcher, using the bottom sheet on the bed for lifting. Fasten litter straps at chest and just above the knees, avoiding any pressure. Cover body with sheet.
15. Before moving body from preparation room, obtain clinical records which are to accompany body to the morgue; notify morgue attendant by telephone; if elevator is to be used, signal for it and hold it at the required floor; close patient doors if necessary; and verify appropriate route to be used to avoid, if possible, public entrances and lobbies.
16. Transport the body quietly and with dignity to the morgue. Remain with the body until the laboratory attendant has received it and transferred it from the ward stretcher. Turn over records to the morgue attendant.
17. Return to the ward with the stretcher. Do terminal cleaning procedure of the patient's unit.

Section X. SPECIALIZED NURSING CARE AND RELATED PROCEDURE

5-92. Care of Patients With Communicable Diseases

Communicable diseases are those which may be transmitted directly or indirectly from one person or animal to another. Direct transmission is by actual contact with the infected person or animal; indirect transmission is by contact with contaminated objects. Communicable disease microorganisms enter and leave the body through recognized portals of entry and exit; *for example*, the respiratory tract, gastrointestinal tract, and lesions of skin or mucous membrane. For additional discussion of causes and control of communicable disease, refer to FM 21-10.

a. Portals of Entry and Exit.

(1) *The respiratory tract.* The most common portal of entry and exit of microorganisms is the respiratory tract. Microorganisms leave the body of the infected person by means of droplets and by nose and throat secretions. Droplets, moist particles containing any pathogens present in the respiratory passages, are exhaled as a spray in coughing and sneezing and, to a lesser extent, in talking or just breathing. The droplet spray travels about 3 feet (more in a violent sneeze) from the source. Small residues (droplet nuclei) which result from evaporation of droplets remain suspended in the air of poorly ventilated enclosed spaces for relatively long periods of time and can be inhaled by a well person, who may then become infected with the disease. The infection may also be spread to a well person who improperly handles secretions of the patient's nose and throat or who inhales dust heavily contaminated with organisms.

(2) *The gastrointestinal tract.* Pathogenic organisms causing communicable diseases such as typhoid and dysentery are transmitted by the ingestion of food and water contaminated by feces. Such diseases result chiefly from poor hygiene and poor sanitation. The most common means of transmission can be summarized as the 5 F's: FECES, FINGERS, FLIES, FOOD, and FLUIDS.

(3) *Mucous membrane and skin.* Communicable disease organisms can leave the body of the infected person through exudates and secretions from infectious lesions and enter the body of the well person through cuts or small breaks in the mucous membrane and skin. *For example*, venereal disease (such as syphilis and gonorrhea), wound infections, and skin infections (such as impetigo) are spread in this manner. Direct contact

is usually the method of transmission in venereal disease; indirect contact, in wound and skin infections.

(4) *Inoculation into the blood stream.* Insects or animals that bite infected persons can transmit pathogens that cause such diseases as malaria, tetanus, and rabies to well persons that they also bite. Disease organisms can also be transmitted from one person to another by contaminated needles and syringes—a major mode of transmitting a disease such as serum hepatitis. Furthermore, blood from a wound of an infected person can transmit disease organisms by coming into contact with open cuts or wounds on a well person.

b. Community Measures for Controlling Communicable Diseases.

(1) *Community sanitation.* The control of communicable diseases may require local, state, national, or international regulations. These regulations frequently involve the departments of preventive medicine and the public health service. One of the most important aspects of control of infectious diseases is the provision of a sanitary environment. This includes insect and rodent control; inspection of food, milk, and water; and garbage and sewage disposal. Other measures include immunization programs, premarital examinations to detect venereal diseases, and community surveys to detect pulmonary tuberculosis.

(2) *Education of the public.* Although reporting communicable diseases is the responsibility of the doctor, it is the responsibility of everyone to report to the doctor or the proper public health official anyone—particularly himself—he has reason to believe is suffering from an untreated communicable condition. It is also the responsibility of everyone to inform himself of the methods of transmission of communicable disease organisms so that he can take measures to protect himself and others from infection. Good personal hygiene, including body cleanliness, adequate rest, and a well-rounded diet, will go far to strengthen the body's defense against disease. Avoiding crowded areas during periods of epidemics will also help. Furthermore, to aid in preventing spread of communicable disease, each individual must cover his mouth and nose when coughing or sneezing, carefully dispose of all tissues containing nose and throat excretions, and always wash his hands after using the toilet.

c. Hospital Measures for Controlling the Spread of Communicable Diseases.

(1) *Medical asepsis.* Recent hospital experiences with the spread of staphylococcal infections within the hospital environment have resulted in renewed emphasis on the importance of applying basic principles of medical asepsis in all hospital areas for all patients. Essential measures previously discussed include handwashing between contacts with patients; disinfecting equipment and utensils in common use before storing or using for another person; handling and disposing of all wastes, soiled linen, etc., to prevent the

Table 5-5. Differentiation Between Medical and Surgical Aseptic Techniques

	Medical Aseptic Technique	Surgical Aseptic Technique
Definition	All of the procedures used to protect the patient and his environment from the spread of infectious organisms.	All of the procedures used to sterilize and to keep sterile any object or article that is to be introduced into a wound or body cavity or that is to penetrate the skin.
Emphasis	On cleanliness (freedom from pathogenic organisms).	On sterility (freedom from all organisms).
Purpose	To reduce the transmission of pathogenic organisms from one person to another.	To prevent introduction of any organism into an open wound or body cavity.
Isolation	Patient with a communicable disease is separated from rest of patients by room, ward, or unit.	Patient requiring surgery is taken to the OR, a separate department away from the rest of the hospital.
Zone	A zone about the isolation unit is established as contaminated. *NOTE.* Everything within the zone of isolation is contaminated. Nothing goes out of the zone without being disinfected or wrapped in a clean cover to permit handling in a clean zone.	A zone about the site of operation or wound is established as a sterile field. *NOTE.* Once a sterile article touches an unsterile article, it is contaminated (unsterile). Only sterile articles are brought into the sterile field.
Handwashing	Hands and forearms are washed for 1 to 2 minutes to remove surface contaminants and soil. Plenty of soap, water, and friction are used, rubbing well between fingers and around nails. Hands are held down under running water to drain off fingertips. Hands and arms are dried with paper towels.	Hands and forearms are scrubbed for 10 minutes to reduce the bacterial count on the skin surface. Plenty of soap, water, and friction are used, rubbing well between fingers and under nails. Hands are held up under running water to drain off elbows. Hands and arms are dried with a sterile towel.
Gowns	Clean gowns are worn to protect the worker. Inside of gown is clean; outside of gown in contact with patient and his environment is contaminated.	Sterile gowns are worn to protect the sterile field from the worker. Outside of gown in contact with sterile field must be kept sterile.

spread of pathogenic organisms; maintaining adequate space (a distance of 5 feet) between beds; and keeping wards clean, dustfree, and well ventilated. When these measures are applied consistently, there is a large measure of built-in protection against the spread of communicable disease from an undiagnosed or unrecognized source.

(2) *Surgical asepsis.* Patients being treated in both surgical and medical wards require the use of surgical aseptic techniques to supplement the basic protective measures used in medical asepsis. Confusion sometimes results from erroneously thinking that medical and surgical asepsis measures require different emphasis when applied on a medical ward from those when applied on a surgical ward. What is required is an understanding of what is meant by "medical aseptic technique" and "surgical aseptic technique." A differentiation between some major considerations is outlined in table 5–5.

d. Nursing Care of Communicable Disease. Preparation for the provision of good nursing care includes knowledge of the duration and stages of the disease, techniques of isolation appropriate to the case, concurrent and terminal disinfection measures, comfort measures for the patient, diagnostic tests and specimens required, therapeutic measures usually ordered, observation for special signs and symptoms, and complications which may occur. For a brief description of some selected communicable diseases, along with pertinent points in nursing care, see table 5–6. (For additional information, refer to Control of Communicable Diseases in Man, 10th Edition, 1965, an official report of the American Public Health Association. This publication is available in every AMEDD medical library.)

5–93. Isolation Techniques

Isolation technique is a method of carrying out medical asepsis while caring for a patient with a communicable disease. It consists of: (1) setting up an isolation unit, (2) confining the patient to the unit, (3) using handwashing and protective clothing for individuals who care for or visit the patient, and (4) decontaminating (disinfecting) or destroying materials and utensils coming in contact with the patient. The medical officer determines the necessity for isolating the patient, writes the order, and explains the necessity of this treatment measure to the patient. In general, nursing personnel then have the responsibility of setting up and carrying out an approved form of isolation technique. Isolation technique practices vary from one AMEDD hospital to another—usually because of facilities available, particularly on availability of facilities for handwashing with running water and separate toilet and bath facilities for the patient on isolation. Local hospital procedures must be strictly followed. The procedures discussed in this section are typical of those used for isolation of a patient on a noncommunicable disease ward.

SETTING UP THE ISOLATION UNIT

a. *Location.* Use a single room, preferably with private toilet facilities. If such a room is not available, select a corner area of a multiple-bed room or ward in order to reduce proximity to other patients, and define the isolation unit by using cubicle curtains and portable screens to set it off from adjacent common-use areas.

b. *Designation of Contaminated and Clean Zones.*

- *Contaminated zones.* These include the interior of the patient's unit area and all of its contents; all floors; designated areas in the utility room to which contaminated materials may be brought for cleansing purposes; and interior of all sinks, hoppers, commodes, waste containers, and soiled linen hampers.
- *Clean zones.* These include offices, linen rooms, supply closets, nonisolated patient units; and treatment rooms. Everyone must be aware of these clean zones and be careful not to contaminate them by bringing into them any article from a contaminated zone that has not been disinfected.

Equipment

For Use Within Unit:
  Usual bedside equipment
  Thermometer, individual setup[1]
  Laundry bag
  Step-on can
  Plastic or paper bags
For Use At Entrance To Unit:
  Portable screens (if in multibed ward)
  Sign, "Isolation"
  Small table (or bedside cabinet)
  Basin stand, double[2]
  Washbasins, 2[2]
  Germicide solution[2]
  Paper towels
  Hand lotion
  Masks, disposable
  Gowns, clean
  Step-on can

NOTE

Specific drug therapy (the use of a drug that is particularly effective in destroying a particular organism) for an increasing number of communicable diseases usually reduces the period of communicability, the severity of symptoms and possible complications, and the requirements for intensive nursing care in many of these diseases.

Table 5–6. Nursing Care—Selected Communicable Diseases

Disease and causative organism	Source of infection, mode of transmission	Incubation period, communicable period	Common symptoms, possible complications	Points in nursing care
CHICKEN POX: (Varicella): Caused by virus.	*Source:* Secretions of skin lesions, nose and throat of infected persons. *Spread:* By direct contact with discharges from lesions, nose, and throat of infected persons. Indirectly by articles freshly soiled with such discharges.	*Incubation:* 2–3 weeks. *Communicable:* from 1 day before until 6 days after the appearance of first crop of vesicles. *NOTE.* Chicken pox is one of the most readily communicable of diseases.	*Symptoms:* Mild chill and fever. Pain in back and legs. Maculopapular rash appears in 24 hours, followed by vesicular rash lasting 3–4 days. Rash first appears on trunk and covered portions of body. Different stages of rash may be on same region of body at same time, occurring in successive crops. Lesions may appear on scalp and mucous membranes. *Complications:* Secondary skin infection, pneumonia, conjunctivitis.	Isolate in separate room. Complete bed rest until 24 hours after temperature returns to normal. Caution patient against scratching lesions. Pat, rather than rub, skin dry when bathing patient. Use care in combing his hair. Avoid loosening scabs. Lotions, if ordered, may be applied to skin for relief of itching. Force fluids. Diet as desired. *NOTE.* Special care is needed when lesions are on mucous membranes of mouth, throat, or genitalia. *Disinfection:* All articles in contact with discharges. Incinerate paper handkerchiefs and dressings soiled with discharges. Terminal disinfection: Thorough cleaning of room; air for 24 hours.
COMMON COLD: Caused by one or more viruses.	*Source:* Secretions from nose and throat of infectious persons. *Spread:* By direct contact with infected person. By cough or sneeze of infected person. Indirectly by articles freshly soiled with nose and throat discharges.	*Incubation:* 12–72 hours. *Communicable:* During incubation and early stage of disease.	*Symptoms:* Sudden onset; slight fever, chilly sensations, coryza, general lassitude, vague aches and pains in back and limbs. *Complications:* Bronchitis, pneumonia, sinusitis, otitis media.	Isolation as can be accomplished by bed rest during the acute stage. Caution patient against nose blowing with both nostrils occluded. Apply cold cream or bland ointment to upper lip and about nares. Force fluids. Diet as desired. *Disinfection:* All articles in contact with discharges. Incinerate paper handkerchiefs soiled with discharges.
DENGUE: (Breakbone Fever): Viruses of dengue fever.	*Source:* Blood of infected persons one day before and up to 5 days after onset. *Spread:* By bite of mosquito (Aedes Aegyptae) infected by biting a patient during the above period. The mosquito becomes infectious after an interval of 8–11 days, and remains so.	*Incubation:* 3–15 days. *Communicable:* From day before onset until the fifth day of disease.	*Symptoms:* Sudden onset; high fever, intense headache, joint and muscle pains, irregular eruption. Intense pain in eyes may be a complaint. *Complications:* Rare; prolonged feeling of fatigue and depression may be present during convalescence.	Room with screened door and windows for 5 days. Bed rest during fever period. Ice cap to head. Cradle to keep top covers off painful joints. Calamine lotion to relieve itching. Protect eyes from direct or strong light. Cold compresses to eyes may be soothing. Urge patient to keep eyes closed as much as possible. *Disinfection:* As for general hospital patient.

DYSENTERY: A. Amebic (amebiasis): Caused by endamoeba histolytica.	*Source:* Feces of infected persons, especially carriers. *Spread:* Indirectly by foods, articles, water, flies, soiled hands, or infected food handlers.	*Incubation:* 3 days to several months, commonly 3–4 weeks. *Communicable:* During course of infection and until feces are negative for ameba.	*Symptoms:* Diarrhea and abdominal cramps. Fever; weight loss; general debility; diarrhea, often bloody or watery stools, foul odor to feces. May be alternate constipation and diarrhea. *Complications:* Liver abscess, hepatitis, lung abscess.	Isolate during acute stages. Room with screened door and windows. Complete bed rest during acute stage. Teach patient to wash hands after defecation and before handling food. Measure intake and output. Chart description of each stool. During acute stage, feed patient frequent small meals high in carbohydrates; after acute stage, diet should be high in protein. Avoid fruit juices, leafy vegetables, salads. When emetine hydrochloride is being administered, watch patient for symptoms of visual disturbance, increased pulse rate, fall in blood pressure, pallor or cyanosis. *Disinfection:* All articles in contact with discharges from alimentary tract. Disinfect feces before disposal if municipal sewerage is not available. *Terminal disinfection:* Thorough cleaning.
B. Bacillary (shigellosis): Caused by various species of shigella.	*Source:* Feces of infected persons and carriers. *Spread:* Indirectly by infected person or carrier, also contaminated flies.	*Incubation:* 1–7 days. *Communicable:* During disease and until feces are negative for organisms.	*Symptoms:* Mucus or bloody diarrhea, abdominal cramps, tenesmus, fever, prostration. In severe cases, marked dehydration, abdominal distention, coma. *Complications:* Arthritis, pneumonia.	Room with screened door and windows. Bed rest depends upon the severity of disease. In acute stage, prevent chilling; keep room warm and quiet. Because disease may be of long term duration and be debilitating, daily baths with special attention to bony prominences are important. Devices for comfort should be employed where useful. Special mouth care q3h; force fluids during acute stage, avoid milk. Give frequent small meals, gradually return to normal diet. *Disinfection:* Same as for amebic.
HEPATITIS: A. Infectious (IH): Caused by unknown agent; a filterable agent has been demonstrated in experimental infection of volunteers.	*Source:* Feces, urine, and blood from infected persons *Spread:* Intimate person-to-person contact by fecal-oral route with respiratory spread possible; transfusion of whole blood, injection of blood serum or plasma from infected persons; con-	*Incubation:* 15 to 50 days, commonly 25 days. *Communicable:* Unknown—possibly from several days before to usually not more than 7 days after onset.	*Symptoms:* Fever, anorexia, nausea, malaise, abdominal discomfort, jaundice, usually prolonged convalescence. *Complications:* Rarely acute necrosis of liver; case fatality under 1%.	Isolation during first week of illness. Bed rest during the acute stage; frequent small feedings high in carbohydrate during period of anorexia. Measure intake and output; urge fluids. Gradual restoration of activity and full hospital diet. *Disinfection:* Feces, nose and throat secretions, and all articles in con-

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Table 5–6. *Nursing Care—Selected Communicable Diseases*—Continued

Disease and causative organism	Source of infection, mode of transmission	Incubation period, communicable period	Common symptoms, possible complications	Points in nursing care
HEPATITIS—Continued	taminated water, milk, food, including oysters and clams.			tact with these secretions; thorough heat sterilization of syringes, needles and other instruments. *Terminal disinfection:* Use disposable rectal and gastrointestinal tubes, syringes, needles, etc., whenever possible. Break and dispose of rectal thermometers instead of attempting terminal sterilization and reuse by another patient.
B. SERUM (SH): Caused by: (See A, above).	*Source:* Blood or blood products from an infected person. *Spread:* By parenteral inoculation of human blood or blood products or by use of syringes, needles, or other instruments contaminated with traces of such materials.	*Incubation:* 50 to 160 days, usually 80 to 100 days. *Communicable:* Unknown. Some blood donors are known to have been continuously or intermittently infective for years.	*Symptoms:* As in A, above. *Complications:* Higher fatality than in IH (A, above).	No isolation—not known to be communicable except by injection. Bed rest may be prolonged with very gradual restoration of activities; diet and I & O as in A, above. *Disinfection:* Steam under pressure, dry heat, or ethylene oxide gas sterilization of syringes, needles, and stylets for finger puncture. *NOTE.* Use disposable equipment when possible.
INFLUENZA: Caused by influenza virus.	*Source:* Probably discharges from mouth and nose of infected person or carrier. *Spread:* By direct contact with discharges and droplet infection from infected person or carrier, possibly airborne. Indirectly by articles freshly soiled by discharges.	*Incubation:* 24–72 hours. *Communicable:* Possibly from incubation until after fever subsides.	*Symptoms:* Chills, fever, malaise, generalized aches and pains; intense headache; cough, sputum scant and watery at first, increases in amount and becomes mucopurulent; mental depression; prostration out of proportion to symptoms. *Complications:* Bronchitis, acute sinusitis, otitis media, pneumonia.	Isolation in separate room or ward. Complete bed rest until 24 hours after temperature returns to normal. Tepid sponges to refresh patient. Ice cap to relieve headache. Warm gargles may relieve throat irritation. Steam inhalations may relieve cough. Maintain cheerful attitude toward patient; keep room light and pleasant. Force fluids, diet as desired. *Disinfection:* All articles in contact with nose and throat discharges. Incinerate paper handkerchiefs.
MALARIA: Caused by protozoan parasite (four types). Plasmodium vivax. Plasmodium faciparum. Phasmodium ovali Plasmodium malariae.	*Source:* The blood of infected person. *Spread:* By bite of infected mosquito (Anopheles).	*Incubation:* Varies with species of infecting organism and the number infected. *Communicable:* As long as sexual form or organism exists in blood in sufficient quantities to infect anopheles mosquito.	*Symptoms:* Shaking chills, periodic fever, headache, malaise, skin hot and flushed during chills and high fever. After chills, profuse diaphoresis, extreme thirst, delirium, spiking temperature, backache. *Complications:* Anemia, hemoglobinuria, frequent relapses.	Room with screened door and windows. If not available, place netting over bed. Bed rest during paroxysms of chills and fever. In cold stage, apply blankets, hot water bottles, urge hot drinks. As hot stage develops (immediately after cold stage) gradually remove heat. Tepid sponges and ice cap to head may help during this stage. Force cold fluids. Place small pillow under small of back to relieve ache. If delirous, apply sidebars to bed as

				safety measure. Sweating stage follows hot stage, temperature drops rapidly, profuse diaphoresis. Force fluids, change linen frequently, keep dry, avoid drafts to prevent chilling patient. Three stages may last 6–10 hours. Observe and record time, severity, and duration of each stage.
MEASLES: (Rubeola): Caused by a virus.	*Source:* Secretions from nose, throat, eyes. *Spread:* By direct contact with infected person; by droplet. Indirectly by articles freshly soiled with discharges from mouth, nose and eyes.	*Incubation:* 10 days from exposure to onset of fever; 13–15 days to appearance of rash. *Communicable:* From 4 days before until 5 days after appearance of rash.	*Symptoms:* Coryza, sneezing, cough, nausea, vomiting, chilliness, fever, small grayish white spots at gumline (Koplik spots.) Rash appears third or fourth day; starts about ears, face, trunk and extremities. Fever increases during eruption, subsides as rash fades. *Complications:* Bronchopneumonia, otitis media, laryngitis, encephalitis.	Isolate in light airy room during period of communicability. Avoid direct or glaring light; protect patient from drafts. Complete bed rest until temperature returns to normal. When bathing, use very little soap; pat rather than rub dry. Itching skin may be relieved by a 5-percent solution of sodium bicarbonate. Petrolatum may be applied about nares and lips. Offer mouth wash and gargles frequently. *Disinfection:* All articles in contact with discharges. Incinerate paper handkerchiefs and dressings soiled with discharge from nose, throat, eyes. *Terminal disinfection:* Thorough cleaning of room; air for 24 hours.
MENINGITIS, MENINGOCOCCAL: Cerebrospinal Fever.) Caused by cocci.	*Source:* Discharges from nose and throat of patient and carriers. *Spread:* By direct contact with patient or carriers and by droplet. Indirectly by articles freshly soiled with infectious discharges.	*Incubation:* 2–10 days. *Communicable:* Until nose and throat discharges are negative for meningococci.	*Symptoms:* Sudden onset; fever, intense headache, nausea, vomiting, petechial skin rash; neck becomes stiff; patient stuporous or lapses into coma. Patient may assume opisthotonos position (spine arched backward to an extreme degree). *Complication:* Pneumonia.	Isolate in quiet, slightly darkened room. Change patient's position frequently. Use small pillows and other devices for comfort. Patient is very sensitive to noise, light, and touch. Handle him gently. Give frequent back care to avoid pressure sores. Give oral hygiene before and after feeding. Apply ointment about lips. Protect eyes from bright lights. *Disinfection:* All articles soiled by nose and throat discharges. Incinerate paper handkerchiefs. *Terminal disinfection:* Thorough cleaning of room; air for 24 hours.
MUMPS: (Infectious Parotitis). Caused by virus of mumps.	*Source:* Saliva of infected person. *Spread:* By droplet and direct contact with infected person. Indirectly by articles	*Incubation:* 12–26 days. *Communicable:* From 2 days before glands swell until swelling subsides.	*Symptoms:* Chilliness, malaise, moderate fever, pain on swallowing and chewing. Swelling below and in front of ear. The surrounding tissues are edematous; the submaxillary	Isolation for period of communicability. Complete bed rest until after swelling has subsided. Heat or cold may be applied to affected area if desired. Special mouth care with

Table 5–6. Nursing Care—Selected Communicable Diseases—Continued

Disease and causative organism	Source of infection, mode of transmission	Incubation period, communicable period	Common symptoms, possible complications	Points in nursing care
MUMPS—Continued	freshly soiled with saliva of such person.		glands often swollen and tender. Features are distorted. Movements of jaw are restricted and painful. May affect one or both sides. *Complications:* Orchitis, oophoritis, pancreatitis, mastitis.	frequent mouth washes or gargles. Force fluids and semisolids. Avoid acid fruit juices. A scrotal bridge may be ordered for male patient. *Disinfection:* All articles in contact with nose and mouth discharges. Incinerate paper handkerchiefs.
PERTUSSIS: (Whooping Cough): Caused by pertussis bacillus.	*Source:* Discharges from throat of infected persons. *Spread:* By direct contact with infected persons, by droplet infection. Indirectly by articles freshly soiled with such discharges.	*Incubation:* 7–10 days. *Communicable:* From 7 days after exposure to 3 weeks after onset of typical paroxysms.	*Symptoms:* Chilliness, malaise, moderate fever, coryza, dry hacking cough. Cough gradually becomes severe until characteristic whoop is noted. The paroxysmal stage is marked by coughing at intervals of varying frequency. Repeated paroxysms of coughing, loss of breath, whooping, and vomiting leave the patient exhausted, perspiring, and apparently dazed. *Complications:* Bronchopneumonia, hernia, hemorrhage, prolapse of rectum, convulsions.	Isolation in a separate, well-ventilated room. Patient should be kept quiet. Tight abdominal binder may give some support during paroxysms. Serve bland nourishing foods, neither very hot nor very cold. If patient vomits soon after eating, feed again. *Disinfection:* All articles soiled with discharges from nose and throat. Incinerate paper handkerchiefs. *Terminal disinfection:* Thorough cleaning; air room for 24 hours.
PLAGUE: Caused by plague bacillus. Types: Pneumonic. Bubonic.	*Source:* Infected rodents and patients. *Spread:* Direct by droplet, nose, and throat discharges in pneumonic form. Bubonic transmitted from rodent to man by bite of flea.	*Incubation:* Bubonic 2–6 days. Pneumonic 3–4 days. *Communicable:* Pneumonic during active stage. Bubonic-not communicable from man to man.	*Symptoms:* Pneumonia forms: Bronchopneumonia develops rapidly, sputum bloodstreaked and watery. This form is usually fatal in short time. Bubonic forms: Sudden onset: headache, vomiting, prostration. Delirium, conjunctiva injected, facial expression of weariness characteristic. Tongue furred and swollen, subcutaneous hemorrhages giving rise to term "Black Death." Lymph glands become swollen, painful, and may suppurate, especially those of the neck, groin, and axilla. *Complications:* High mortality rate, secondary pneumonia, and pleurisy.	Isolation in room with screened windows. In pneumonic type: Worker wears close-fitting hood, goggles, coveralls, rubber gloves, Nursing care that of pneumonia. Bubonic type: Nursing care is that of typhoid fever. The patient is very ill and needs constant care. *Disinfection:* In pneumonic type, all sputum, tissues, contaminated with mouth and nose secretions must be burned. In bubonic type, burn all dressings and bandages. Both types: all contaminated equipment must be disinfected. Urine and feces of patients must also be disinfected. Area of original infection should be treated to destroy rats and fleas. *Terminal disinfection:* Thorough cleaning; air room 48 hours. Bodies of persons dying of plague should be handled with strict aseptic precautions.

PNEUMONIA: A. Acute lobar: Caused by pneumococci.	*Source:* Probably discharges from nose and mouth of infected persons and carriers. *Spread:* By direct contact with infected person and by droplets. Indirectly by articles freshly soiled by such discharges.	*Incubation:* Possibly 1-3 days. *Communicable:* Unknown, thought to be until organisms no longer present in discharges. Possibly by minute suspended particles containing infectious agent.	*Symptoms:* Abrupt onset with chill. Rapid rise in temperature to 104°-106° F., skin hot and dry; malaise and headache; pain in chest; patient lies on affected side. Flushed face, cyanosis about lips. Herpes on lips. Increased respirations and respiratory grunt. Cough with tenacious rusty sputum. Pulse full and bounding. Delirium may be present. *Complications:* Spread to another part of lung, pleurisy with effusion, empyema, pericarditis, endocarditis, meningitis.	Isolate patient in a separate, warm, well-ventilated room free from drafts. Encourage patient to rest and relax. Complete bed rest is basic treatment. Plan procedures so as to disturb patient as little as possible. Change position every 3-4 hours. Daily bath; occasional back rub with lanolin or cocoa butter for elderly patients may prevent dry itching skin. Special mouth care every 3 hours. Apply ointment to lips to keep them soft. Force fluids. Diet as desired. Administer oxygen as necessary. *Disinfection:* All articles soiled by nose and throat discharges. Incinerate paper handkerchiefs. *Terminal disinfection:* Thorough cleaning; air room for 24 hours.
B. Primary atypical: Caused by virus.	*Source:* Discharges from the nose and throat. *Spread:* By direct contact with infected person. Indirectly by articles freshly soiled by nose and throat discharges. Mild unrecognized infections may help spread of disease.	*Incubation:* Not definite, may be 7-21 days. *Communicable:* Unknown length of time.	*Symptoms:* Chilliness, fatigue, malaise, fever, range 99°-104° F. Intense headache. Painful and exhausting cough with scant sputum. *Complications:* Pericarditis, pleurisy, empyema, encephalitis.	Similar to points listed under A; bed rest for several days after temperature returns to normal.
POLIOYMELITIS: (Infantile Paralysis): Caused by virus of poliomyelitis.	*Source:* Discharge from nose, throat, intestinal tract of acutely ill and/or convalescent patient, carrier. *Spread:* By direct contact and droplets spread through close association with infected persons.	*Incubation:* Usually 7-14 days. May be 3-35 days. *Communicable:* Latter part of incubation period and first week of illness (not definite).	*Symptoms:* Three stages. First stage: Gastrointestinal upset, fever, headache, malaise. Second stage: Meningeal irritation, severe headache, pain and stiffness in back of neck and limbs, muscle spasm. Third stage: Severe involvement of nervous system, paralysis. Patient may progress to all three stages, or disease may be limited to first and/or second stage. Often paralysis is the first sign of the disease. *Complications:* Atelectasis and pneumonia in patient with respiratory paralysis. Renal calculi, atrophy of paralyzed muscles.	Isolation in separate ward or room. Complete bed rest on a firm bed. Place fracture board under mattress. Use a covered footboard separated from mattress by blocks to prevent pressure of bedding on toes and to provide firm base for soles of feet when patient is in prone position. Woolen or cotton blankets should be next to patient. Physical and mental rest is essential; avoid drafts and glaring lights. Hands should be warm when touching patient. Maintain body in good alinement. Baths are frequently omitted during acute stage. When bathing, use gentle sponging movements and dry by blotting rather than rubbing. Fluids during acute stage, diet as desired later. Hot

Table 5-6. *Nursing Care—Selected Communicable Diseases*—Continued

Disease and causative organism	Source of infection, mode of transmission	Incubation period, communicable period	Common symptoms, possible complications	Points in nursing care
POLIOMYELITIS—Continued				packs are ordered (usually) as soon as diagnosis is made. Watch for nasal voice, hoarseness, difficulty in swallowing, twitching of facial muscles characteristic of bulbar type. Should respiratory paralysis develop, patient may be placed in a respirator. *Disinfection:* All articles soiled by nose and throat discharges. Incinerate paper handkerchiefs. If municipal sewerage is not available, disinfect feces before disposal.
RUBELLA: (German measles): measles): Caused by a virus.	*Source:* Secretions from nose and throat. *Spread:* Droplet or direct contact with infected person; indirectly by articles freshly soiled with secretions.	*Incubation:* 14 to 21 days; usually 18 days. *Communicable:* For about one week before and at least 4 days after onset of rash. Highly communicable.	*Symptoms:* Mild fever, rash of variable character, sometimes resembling that of measles (Rubeola), scarlet fever, or both. Few or no constitutional symptoms; almost always enlargement of regional lymph nodes—particularly postauricular (behind the ears), suboccipital or postcervical (back of neck). *Complications:* None in the patient but causes significant proportion of congenital deformities in babies whose mothers have had the disease in first 4 months (first trimester) of pregnancy.	Isolation where contacts include a woman in early pregnancy. If isolated, for 5 days after onset. General nursing care for bed rest patient with mild, acute, febrile illness.
SCARLET FEVER: Caused by hemolytic streptococci.	*Source:* Discharge from nose and throat, abscesses, wounds of infected persons. Also carriers. *Spread:* Direct contact with patient or carrier. May be airborne. Articles freshly soiled by discharges in infected person or carrier; by contaminated milk and milk products.	*Incubation:* Usually 2–5 days. *Communicable:* Until few days past clinical recovery, all abnormal discharges stopped, open sores or wounds have healed.	*Symptoms:* Sudden onset, sore throat, vomiting, rapid rise in temperature. Tongue heavily coated, in few days becomes bright red, swollen, "stawberry tongue." Forehead and neck flushed, region around mouth is usually pale. Usually a fine rash, blanching on pressure; appears on neck, chest, axilla, elbow, groin, inner aspect of thigh. Pulse is rapid, appetite is poor; bowels constipated, urine scanty. Restlessness, headache, insomnia, delirium, and convulsions may occur during disease. *Complications:* Cervical adenitis, otitis media, nephritis, arthritis, rheumatic fever, endocarditis.	Isolation in separate room. Complete bed rest until 24 hours after temperature returns to normal. Tepid sponges may be given to reduce temperature. Addition of sodium bicarbonate to bath water may relieve itching. Olive oil or cocoa butter applied during desquamation (peeling of skin) period adds to patient's comfort. Never use alcohol during desquamation stage. Give mouth care q4h; throat irrigations or gargles may give relief during sore throat stage. Accurately measure intake and output of fluids and semisolids during acute stage. *Disinfection:* All articles soiled with discharges from nose, throat, sores,

				wounds. Incinerate paper handkerchiefs and dressings. *Terminal disinfection:* Thorough cleaning of room; air for 24 hours.
TUBERCULOSIS: (Pulmonary): Caused by tubercle bacilli.	*Source:* Person with "open" tuberculosis (sputum, nose and throat discharges contain tubercle bacilli). Milk from tubercular cattle. *Spread:* Direct or indirect contact with infectious persons, by means of coughing, sneezing, droplets. Infections rarely occur from casual contact but usually from long and close exposure.	*Incubation:* Variable. *Communicable:* As long as the tubercle bacilli are discharged by the patient.	*Symptoms:* Fatigue without cause, loss of weight, cough of 3 or more weeks duration which does not respond to treatment. Loss of appetite and digestive disturbances. Nightsweats. Afternoon temperature elevation. Tubercle bacilli may be found in sputum and/or gastric washings. Lesion may be found on chest X-ray. *Complications:* Spread, pleurisy with or without effusion, hemorrhage, atelectasis, spontaneous pneumothorax.	Isolation in separate room or special ward. Tuberculosis is a long-term disease; therfore, morale is an important factor. Rest is an essential of treatment. Teach patient ways to protect himself and others from infection. Plan nursing care in accordance with TB MED 231, Prevention of Spread of Tuberculosis in Armed Forces Hospitals, and TB MED 236, Management of Pulmonary Tuberculosis. *Disinfection:* All articles in contact with patient. Incinerate paper handkerchiefs and sputum cups.
TYPHOID FEVER: Caused by typhoid bacillus.	*Source:* Feces or urine of infected persons and carriers. *Spread:* Direct contact with patient or carrier, indirectly by contaminated water, food, milk, shellfish, flies.	*Incubation:* Variable; average 2 weeks, usual range 1-3 weeks. *Communicable:* From first symptoms throughout convalescence or until excreta is repeatedly negative for organism.	*Symptoms:* Variable, lasts 4-6 weeks. First week: Constant severe headache, irregular pulse, cough, bronchitis, constipation or diarrhea. Epistaxis (nose bleed), fever higher each p.m. until it reaches 104°-105°F. Second week: Fever remains high, heavily coated tongue, sores, rose spots on abdomen, pulse slow in proportion to temperature, dullness, lethargy, low muttering delirium, eyes open and staring. Third week: Gradual decline in temperature, beginning of convalescence. Convalescence is long, may be 2 weeks to several months. *Complications:* Intestinal hemorrhage may occur in second or third week. Perforation of intestine may occur late in disease. Phlebitis, bronchitis, pneumonia, cholecystitis.	Isolate in room with screened door and windows to exclude flies. Plan care to provide maximum rest for patient. During period of high fever, take rectal temperatures, give tepid sponges, ice cap to head, mouth care q2h. Watch bony prominences closely for pressure areas. Avoid pressure on abdomen when bathing patient. Stay with patient during delirium. Allow patient to chew gum if he is able. If constipation is present, enemas may be ordered; give very slowly. Cathartics are not given because of danger of perforating intestines. Diet--High caloric, high carbohydrate in frequent small meals. Force fluids. Patient may be fed because of lethargy and poor appetite. *Disinfection:* All articles in contact with patient. Disinfect excreta before disposal when municipal sewerage is not available. Incinerate all burnable materials.

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Table 5–4. Nursing Care—Selected Communicable Diseases—Continued

Disease and causative organism	Source of infection, mode of transmission	Incubation period, communicable period	Common symptoms, possible complications	Points in nursing care
TYPHOID FEVER—Continued				*Terminal disinfection:* Thorough cleaning, airing, and sunning of room.
TYPHUS: FEVER: Caused by rickettsia prowazeki: A. Epidemic. B. Endemic.	*Source:* A. Epidemic type, infected persons. B. Endemic type, infected rats. *Spread:* A. Epidemic type, bite of infected louse, or feces of infected louse inoculated into bite or wound. B. Endemic type, bite of infected flea.	*Incubation:* 6–15 days. *Communicable:* Not from man to man. Patient is infective to lice during fever and possibly 2–3 days after temperature is normal.	*Symptoms:* High fever, chills, severe headache, severe back and generalized body aches and pains. Rash about fifth day covers trunk but avoids hands, feet, face. Cough, bronchitis. Pulse slower than fever would indicate. May become stuporous, delirious. *Complications:* Bronchitis, bronchopneumonia, otitis media, mastoiditis.	Place in room or ward after all lice and nits have been removed from his person. Patient and bedding should be dusted with DDT once a week during febrile period. Force fluids during period of high fever. Care is similar to that of typhoid fever. *Disinfection:* As for a general hospital patient. Handle linen carefully.

Plastic or paper bags
Laundry bag and conveyor
Tag—"Contaminated Linen" (color-coded)

For Use In Utility Room:
Newspapers
Toilet brush
Can or pitcher of prescribed germicide-detergent solution
Basin of prescribed germicide-detergent solution
Hand brush p.r.n.
Paper towels

Procedure

1. Assemble all equipment to be taken to the unit at the same time. Place all appropriate articles on a cart to avoid extra trips.
2. Screen off the entire unit if it is set up in a multiple-bed ward. Use cubicle curtains for side screens and portable screens at the foot of the bed, placing screen to allow adequate space for access to foot-of-bed area within the isolation unit.
3. Attach "Isolation" sign to outside of screen at cubicle or to door of room.
4. Inform all other patients that the isolation unit is off limits to them.
5. Place within unit, near the exit:
    a. Laundry bag, for soiled linen.
    b. Step-on can, lined with plastic or paper bag.
6. Arrange equipment for convenience and immediate accessibility outside entrance to unit:
    a. Cabinet (or table) for clean gowns, disposable masks, paper towels, a few extra paper or plastic bags, 2 extra laundry bags.
    b. Handwashing unit.
    c. Step-on can lined with plastic or paper bag—for towel and mask disposal.
    d. Laundry bag in conveyor (color-coded "Contaminated Linen" tag, tied to cord or flap of bag; 12-inch, fold-over cuff).
7. Arrange equipment for convenience and immediate accessibility in designated area of utility room:
    a. Counter or table area, with top surface protected with four layers of newspaper—for temporary placement of contaminated utensils.
    b. Basin of germicide-detergent solution—for immersion of contaminated articles p.r.n.
    c. Toilet brush in container (may use size 10 tin can) of detergent-germicide solution.

5–94. Handwashing and Hand Care

The greatest single factor in preventing the spread of disease is washing the hands before and after caring for a patient. Because of emphasis on the necessity for handwashing after contact with the patient and his contaminated articles, the need for washing hands before approaching the patient in isolation is sometimes neglected; the patient in isolation needs all possible protection to keep him from being exposed to new infection or reinfection.

PROCEDURE

1. Remove rings and wristwatch before entering the unit. Pin rings inside the uniform pocket and do not wear them when in patient care areas.

NOTE

If a wedding band is not removed, be sure to move it up and down while washing hands to cleanse skin under and around the metal. Place wristwatch on clean paper towel on the table outside the unit. When needed inside the unit, carry the watch in on the towel.

2. Follow recommended handwashing procedures (para 5–6), with these additions upon leaving the unit:
    a. *Running water technique.* Repeat lather and friction steps, for a total of 2 minutes washing.
    b. *Basin technique.* Change solution q. 2 h. unless a more frequent change is required because of heavy use.
    c. *Hand care.* Dry hands thoroughly and use hand lotion regularly to keep skin in good condition. Rub lotion into cuticles as well as skin surfaces to help prevent hangnails and chapped, irritated skin.

5–95. Mask Technique

a. General. Masks are worn to protect the worker from inhaling disease organisms spread by droplet spray and from dust present during bedmaking, linen handling, and unit cleaning procedures. Although there are differences of opinion on how effective the types of masks usually available are as a filter barrier, the use of a mask is recommended in the following instances:

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[1] Refer to page 5–48 for individual thermometer set up.

[2] For handwashing when handwashing with running water is not available outside and immediately adjacent to the isolation unit.

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(1) When in close contact (within 3 feet) of a patient expelling droplet spray. The patient may also be required to wear a mask—this is determined by the medical officer.

(2) When handling contaminated linen as in bedmaking or removing linen from the unit or when cleaning in the unit. Even careful damp-dusting and wet-mop floor cleaning measures stir up some contaminated dust. Mask and gown should be worn at these times.

b. Rules When Using a Mask.

(1) Put on mask, with clean hands, before entering the unit. When a gown is also worn, put on the mask first.

(2) Change the mask at least every hour when prolonged wear is necessary and change it at more frequent intervals if it becomes damp.

(3) Once the mask is removed from nose and mouth, discard it in the designated container. Do not wear it bib-fashion around the neck or put it in a pocket.

PROCEDURE

1. Wash hands.
2. With clean hands, remove a clean mask from its container.
3. Open mask by pulling on strings or elasticized side loops.
4. Fit the mask over the nose and mouth; slip loops over ears or tie strings at back of head and neck. Take time to fit the mask well because once it is on, it should not be readjusted.
5. When removing the mask, wash hands before touching the ear loops or strings (these are considered clean).
6. Handle discarded mask by loops or strings only; discard the mask by dropping it into lined, step-on can.

NOTE

When reusable masks must be used, line discard container with a mesh bag (laundry net) obtained from linen supply; this bag is then tied and dropped into the soiled linen bag. Clean, laundered masks are sent to CMS for rolling, autoclaving, and distribution to using activities in a suitable container (usually a canister, but it may be a paper bag). Reusable masks are sterilized by autoclave as a safety factor because of the multiple-handling procedures necessary in sorting and rolling for distribution.

7. Wash hands.

5-96. Gown Technique

a. Protective Gowns. Gowns are worn to protect the wearer's clothing. Gowns are worn by—

(1) Personnel giving contact care to the patient. This includes bathing, bedmaking, giving treatments, taking TPR and BP, giving parenteral medications.

(2) Personnel handling contaminated linen, damp-dusting, or otherwise cleaning the patient unit.

(3) Visitors when in contact with the patient or his immediate surroundings; *for example*, standing at the bedside or sitting in a chair within the unit.

b. General Precautions When Using Gowns

(1) Supply enough gowns at the entrance to the unit so that a clean gown is available for each individual who enters the unit. On leaving the unit, remove and discard the gown into the laundry bag outside the unit. This "discard technique" is the simplest and the safest procedure. Other techniques—in which the gown is removed, hung up, and reused—are more apt to result in contamination of clothing and environment and are therefore not recommended.

(2) Check clean gowns before placement at point of use to insure that they have no holes, that ties and belt are intact, and that sleeves have knit cuffs. Send defective gowns for linen repair and place only clean, usable gowns in the gown supply at the entrance to the isolation unit.

PROCEDURE (DISCARD TECHNIQUE)

Putting On The Gown

1. Remove wristwatch.
2. Wash hands.
3. Put on mask, if indicated.
4. Take gown from cabinet or table.
5. Open gown full length, thrust hands through sleeves, and draw the neck of the garment into place. Tie the gown at the neckband in the back.
6. Grasp edges of the back of the gown and lap one edge over the other to completely cover clothing.
7. Fasten belt ends in a bowknot at the back snugly enough to hold gown folds in position to cover clothing (fig. 5-76).

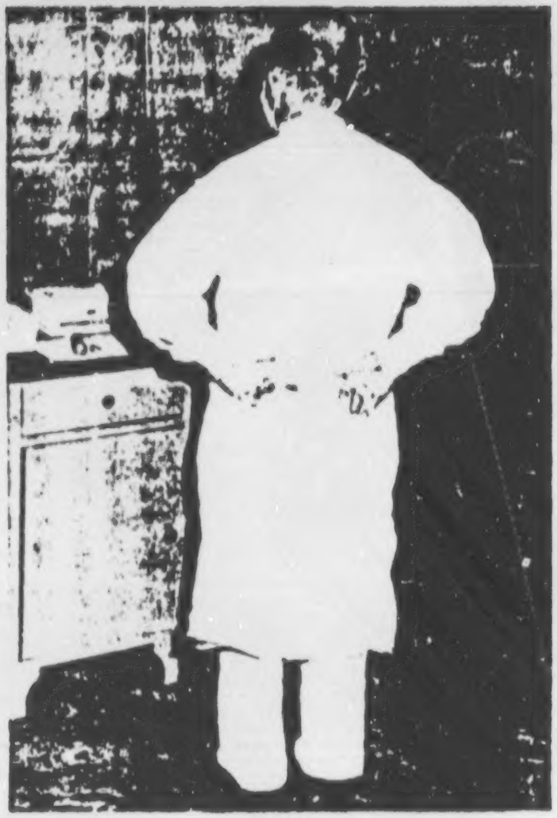

Figure 5-76. Fastening clean gown.

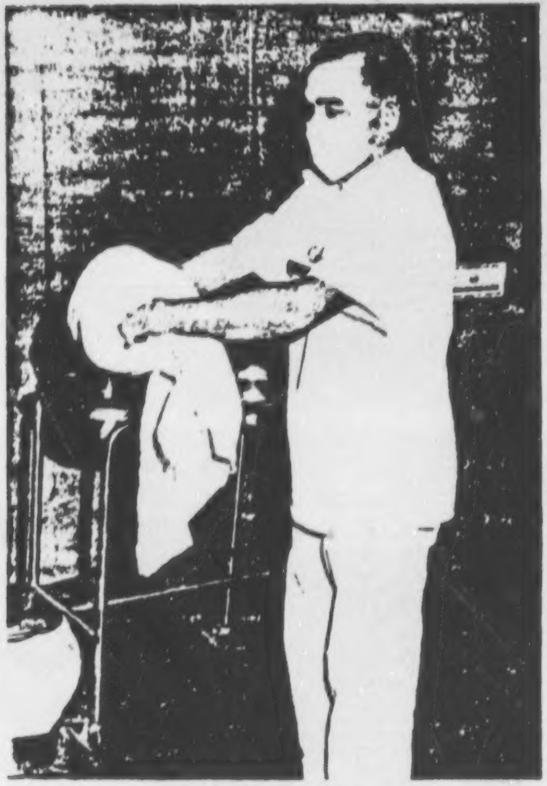

Figure 5-77. Discarding used gown.

8. Push sleeve cuffs above wrists to convenient working level.

Removing the Gown and Mask

1. Untie the belt and push sleeves up about 2 inches.
2. Wash hands without touching sleeve cuffs.
3. Untie neck strings of the gown.
4. Place fingers under the cuff and pull down the sleeve over the hand without touching the outside of the gown.
5. With hand inside sleeve, draw other sleeve down over hand.
6. Slip out of gown by working hands up to shoulder seams of gown.
7. Keeping hands inside under the shoulder seams, lift gown off shoulders. Roll gown away from you with the contaminated side inside (fig. 5-77).
8. Place gown in laundry bag.
9. Remove mask as described in paragraph 5-95 and place in contaminated container.
10. Wash hands.

5-97. Glove Technique

If the use of gloves is indicated when handling highly infectious materials, use clean plastic disposable gloves when they are available. If gloves are indicated for wound care or other procedures requiring surgical aseptic techniques, use sterile gloves, following sterile gloving procedure. In either instance, discard heavily contaminated gloves —do not attempt to rinse, wash, or return them to CMS.

PROCEDURE (CLEAN)

1. Wash hands.
2. Dry hands thoroughly with paper towels.
3. Put on gloves at entrance to unit, covering cuffs of gown with glove cuffs to protect all skin surfaces.
4. Remove gloves before leaving the unit by pulling glove cuffs down and turning contaminated surfaces to the inside. Discard gloves in waste receptacle within the unit.

5-98. Caring for a Patient in an Isolation Unit

The care of the patient in an isolation unit is essentially the same as for any patient, but with increased emphasis on the principles of medical asepsis. Some patients will be confined to bed and will be very limited in the amount of self-care permissible; other patients may be allowed up and around within the confines of their room or unit area but must still depend upon nursing personnel to attend to many of their needs—the patient in isolation is quite limited in his self-sufficiency. Some major considerations in carrying out medical asepsis for the patient in isolation include—

a. Allowing adequate time for proper use of handwashing, masking, and gowning facilities and all other protective measures.

b. Having the supplies and facilities for isolation technique available in the location where they are to be used and set up ready for use.

c. Handling articles removed from or taken into contaminated areas in accordance with a predetermined, unvarying routine.

d. In some instances, assigning a "clean assistant" who remains outside the isolation unit, but who is on call to assist the worker within the unit. *For example,* it is the clean assistant who should hold open a clean bag or other wrapper into which a contaminated article is dropped; it is the clean assistant who obtains supplies from a clean area for the worker in the unit, etc.

e. Using disposable articles to the greatest extent possible; *for example,* paper cups and plates, plastic eating utensils; paper and plastic protective pads instead of rubber sheets; disposable treatment sets and trays; disposable syringes, needles, catheters, etc.

ROUTINE PROCEDURE— ON ENTERING THE PATIENT'S UNIT

1. Assemble any equipment needed for the patient.
2. Check utility room to insure designated area is prepared for temporary placement of contaminated articles removed from isolation unit.
3. Check supplies at entrance to unit and replenish p.r.n.
4. Place equipment to be taken into unit at entrance to unit. Place articles which are to be kept clean while in use (such as a watch) on a paper towel.
5. With clean hands, put on gown and mask.
6. Pick up equipment, open door, and enter unit, making the number of trips that are necessary. Pull screen or door closed, touching only the inside of the screen on door.

NOTE

Hands are now contaminated.

7. On completion of tasks and before leaving the unit, pick up and assemble at the exit all articles to be removed. Collect waste for disposal; collect all soiled linen items and place them in the laundry bag within the unit. Never allow waste disposal or laundry bag to become more than two-thirds full; replace immediately with clean collection bags. Always secure closure of waste bags before removing.
8. Before leaving, check to see that everything possible has been done for the patient's comfort and convenience—check his position, the signal cord, water and tissue supply, ventilation, light, etc. Ask the patient if there is anything he wishes you to do while you are there to do it.

ROUTINE PROCEDURE— ON LEAVING UNIT

1. Remove gown. Wash hands. Then remove and dispose of contaminated linen and wastes.

NOTE

Your hands are contaminated once you touch anything that has been in the isolation area.

   a. Deposit laundry bag from inside of unit into laundry bag on conveyor, using care not to touch outside of open bag.
   b. Take all contaminated utensils and waste inclosed in bag to utility room. Place on newspaper-covered surface temporarily.
   c. Use a paper towel to lift lid of waste can. Deposit waste bag in can and replace cover.
   d. Pour bath water, vomitus, and other liquid wastes into hopper. Use care to avoid splashing. Rinse utensils with cold water, discarding rinse water in hopper. Use paper towel when handling faucet and flush-lever. Place rinsed utensils on newspaper-covered surface temporarily.
   e. Place bedpan or urinal in bedpan washer-sanitizer, using paper towel to press down flush handle and turn on steam valve. Do not leave contaminated articles in utility room for someone else to clean. Complete all cleaning as soon as possible after use of item.
   f. Wash hands when completed.
2. For additional steps in caring for utensils and other contaminated equipment and articles, see table 5–7.

Table 5-7. Ward Care of Contaminated Equipment

	Preliminary steps		Suggested cleaning or holding	
a. Item	b. by ward personnel	c. General instructions	d. Area on ward	e. Field expedients
Utensils from patient's unit (Bath basins, emesis basins, trays or similar items retained on ward).	Empty all contents into toilet or hopper and flush into sewerage system.	1. Use paper towel to turn on water faucet or flush valve. 2. Rinse with cold water, avoiding splashing. 3. Clean with brush using germicide detergent or hot soap and water. Use friction. Rinse well. 4. Empty cleaning and rinse solution into toilet or hopper. 5. Place cleansed utensils in boiling water sanitizer. Submerge completely. 6. Wash hands. 7. Boil utensils for 30 minutes. 8. Place sanitized utensils in common-use storage area. 9. Rinse brush in cold water and boil in utensil sanitizer. 10. Wash hands before touching sanitized items.	1. Utility room. 2. For patients with toilet and water supply in isolation unit, follow steps 1 through 4 in patient area. Take mechanically cleansed articles to utility room for sanitizing.	Refer to FM 12-10, for details on construction of field sanitation devices. 1. Pour excreta into deep-pit or bored-hole latrine. *NOTE:* Follow local policy for use of calcium chloride (lime) for pretreatment of excreta before disposal. 2. Pour bath water and other fluids containing soap with a soakage pit prepared with a grease trap. 3. Rinse with cold water. Discard water in soakage pit. 4. Scrub with brush and prescribed detergent. 5. Immerse reusable utensils in boiling water (immersion heater unit). Boil for 30 minutes. 6. Burn or bury disposable items.
Urinals, bedpans	Take covered utensil to utility room. Place directly into bedpan washer-sanitizer. Flush contents into sewerage system.	1. Use paper towel to activate flush value and steam valve. 2. Wash hands. 3. Steam for 3 minutes. 4. Remove from sanitizer. Inspect for residual stains. Scrub with brush and detergent p.r.n. Rinse. 5. Place sanitized utensils in common-use storage area.	Utility room.	
Solid wastes and refuse, all disposable articles.	Place in plastic or paper bag or wrap in newspaper before taking from unit.	Close bag to completely inclose contents. Drop bag into waste receptacle. Wash hands.	Patient unit or utility room, for collection for incineration.	Handle in the same manner in b, c, or d, as applicable.
Food trays, pitchers, water glasses, etc.	In patient unit, if toilet available, pour liquid wastes into toilet. Flush into sewerage. Otherwise, take tray to utility room.	1. Discard liquid wastes into hopper. Flush hopper. Use paper towel to turn on water faucet or flush valve. 2. Scrape all solid wastes onto paper serving dishes. Wrap and discard into waste receptacle. 3. Have "clean" assistant hold open large plastic bag or paper bag. Slide tray and nondisposable	Wrapped tray and nondisposable articles to food service for sanitizing in dishwasher.	1. May be same, depending on mess dishwashing facilities. Otherwise, dishes are scraped, washed with brush, immersed in boiling water, and boiled for 30 minutes in immersion heater setup of ward unit. 2. Discard food wastes (solid) for incineration. Discard liquids into soakage pit prepared with a grease trap.

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Table 5-7. Ward Care of Contaminated Equipment—Continued

	Preliminary steps		Suggested cleanup or holding	
a. Item	b. by ward personnel	c. General instructions	d. Area on ward	e. Field expedients
Food trays, etc.—Continued		dishes into bag without touching outside of bag. Assistant closes bag and places wrapped tray in designated area for pickup by food service personnel.		
Linen and all washable clothing.	Place directly into laundry bag within isolation unit.	1. Handle linen with no shaking or flapping. 2. Roll linen as removed from bed. 3. Place laundry bag from unit in open bag outside unit. Use care not to touch outside surface of this bag. 4. With clean hands, at outside of unit, close laundry bag when no more than two-thirds full by slipping hands under folded-down cuff. Tie securely. 5. Check color-coded tag "contaminated laundry" attached to outside of bag. 6. Replace clean laundry bag stat, using care to fit into conveyor with 12-inch, turn-down cuff.	Take to laundry pickup point (outside of bag is clean).	Same—laundry point pickup service by quartermaster unit.
Treatment trays and reuseable items from CMS.	Discard wastes. Unless otherwise specified, discard catheters, rubber gloves, gastrointestinal tubes, needles, knife blades, etc., into waste receptacle in patient unit. Discard linen and wrappers into laundry bag in patient's unit.	1. Request "clean" assistant to hold open a large, steam-permeable paper bag (approved for use by CMS). 2. Slide tray and contents into open bag held by "clean" assistant. 3. Request "clean" assistant to close bag and place it at designated CMS pickup point, with attached label on bag: "Isolation Unit-Contaminated."	Designated CMS pickup area. The wrapper is clean on outside for safe handling.	Same—steam processing by autoclave in CMS before any handling of contents for final processing.
Miscellaneous: treatment and diagnostic equipment retained on the ward: (Sphygmomanometers, stethoscopes, flashlights, etc.) Items not immersible in boiling water and requiring chemical disinfection; *for example,*	1. Take from patient unit to utility room. 2. Remove all connections and detachable parts. 3. Discard all catheters, etc., that have been inserted into body cavities.	1. Provide individual equipment for the patient when possible. 2. When items must be used and returned to common use, allow time for proper cleansing and do not attempt to "keep items clean" while being used in isolation unit. 3. Use gauze or cloth saturated with 70% alcohol. Wipe items with	Utility room	Same technique, field or fixed.

leather and other porous items.		firm, twisting, friction movement on all surface, working from the top, down. 4. Follow with fresh alcohol wipe. 5. Air dry. 6. Return to common-use storage area. 7. For large, nonimmersible items with porous cover, wipe surface with moistened cloth. Expose to sunlight and air for 6 hours on every surface.

CONCURRENT CLEANING IN THE ISOLATION UNIT

1. Wear gown and mask.
2. Damp-dust all furniture and equipment surfaces within the unit daily. Use a basin of prescribed germicide and a cleaning cloth. Rinse the cloth frequently. After use, discard the cloth in the waste receptacle.
3. Dispose of cleaning solution in flush-hopper or toilet. Wash and sanitize the basin.
4. Ventilate the unit with fresh air and expose it to sunlight as much as possible. Keep door closed.
5. If responsible for floor care, use a damp mop only and prescribed germicide solution in the mop bucket. Discard solution in hopper or toilet. Discard mop head, after one-time use, in laundry bag. Scrub and rinse the mop bucket, wringer, and mop handle with clean germicide solution and airdry before returning this equipment to the cleaning closet.

NOTE

Never use floor-cleaning equipment interchangeably from isolation unit to clean areas. Although all floors are considered contaminated, this precaution reduces the spread of a known concentration of pathogenic organisms.

TERMINAL CLEANING OF THE ISOLATION UNIT

In most instances, ordinary measures as described in paragraph 5–7, are all that are necessary. Air unit for 8–24 hours, depending upon local policy, before making bed. Follow local policy for terminal disinfection of mattress and pillows when they are sent to laundry for autoclaving.

5–99. Taking TPR of Patient in Isolation

The patient in isolation has an individual thermometer setup at his bedside. The following procedure is an acceptable method of taking and recording the TPR and caring for the thermometer of a patient in isolation.

PROCEDURE

1. Before entering the unit, obtain a pencil and a paper cup containing two or three gauze squares moistened in water.
2. Place wristwatch, pencil, and cup on clean table at entrance.
3. Open one paper towel and leave it on the table.
4. Put on gown and mask.
5. Enter unit carrying paper cup, pencil, two folded paper towels, and watch in one hand.
6. With free hand, place one paper towel on bedside table with edge of towel extending beyond the edge of the table. Place watch on this towel (top side of towel and watch remain clean).
7. Place second towel, pencil, and cup on table.
8. Remove thermometer from holder containing germicide. Using water-moistened squares, wipe thermometer to remove germicide. Read and shake down thermometer.
9. Place thermometer in patient's mouth (or if rectal, lubricate and insert in rectum).
10. If necessary to hold watch while counting pulse and respiration, slide the paper towel with the watch onto your hand by reaching under the extended edge of the towel. When finished, slide paper towel with watch back on table, protecting top clean surface of towel and the watch.
11. Record TPR on second paper towel, using the pencil.
12. After removing thermometer, wipe with tissue from patient's supply. Read thermometer; discard tissue in bag.
13. Take three germicide saturated sponges from container at bedside and wipe thermometer three times, using rotary motion from stem to bulb end. Discard wipes. Return mechanically cleansed thermometer to holder.
14. Discard paper cup in waste bag.
15. Carry paper towel with watch and paper towel on which TPR is recorded from unit. Slide watch on to clean table surface and discard this towel. Place towel on which TPR is recorded on clean open towel.
16. Wash hands; remove gown and mask.
17. With clean hands, record TPR on TPR work sheet. Discard towel.

NOTE

Recording at the bedside for transcription in a clean area is recommended for accuracy; if there are any interruptions, there is less chance of forgetting the TPR reading. The pencil can be left at the bedside and replaced p.r.n.

Care of Individual Thermometer Setup

1. Keep thermometer container filled with prescribed germicide and the container of wipes replenished.

2. Once daily, take thermometer and its container to utility room.
   a. Wash container and thermometer thoroughly.
   b. Place clean cotton in bottom of container to protect tip of thermometer.
   c. Refill with fresh germicide solution and return it to unit.

NOTE

Follow local policy for terminal care of thermometer. The policy may be to discard it, with no attempt to disinfect for return to common use.

5-100. Visitors for a Patient in Isolation

Visitors must receive instructions and be carefully and courteously reminded to follow instructions. In some instances visitors (including noninvolved duty personnel) must be excluded; in others, they may be admitted on a restricted basis and in accordance with hospital regulations. Noninstructed individuals cannot be expected to understand the sign "Isolation" at the entrance to the unit; therefore, a more helpful practice is to add an additional sign such as "Visitors—Please Report To Nurses' Station For Instructions Before Entering This Room." The nurse in charge or senior NCO is then responsible for assisting and observing them. It is important to provide a coat rack or similar facility for such things as overcoats which should not be worn when entering the isolation unit.

5-101. Reverse Isolation

Reverse isolation is a protective measure ordered by a medical officer to protect the patient from contact with pathogenic organisms in the environment. It is an important part of the medical management of a patient with extensive burns or with other conditions in which the patient has a diminished ability to fight infection with his own protective body defenses. By isolating the patient and by carrying out meticulous medical and surgical aseptic techniques while providing all therapeutic and supportive measures, the patient is assured of a margin of safety in the prevention and control of infection.

a. Routine Reverse Isolation. For a patient requiring conventional protective measures, placing the patient in a thoroughly clean room, introducing only aseptic equipment and supplies and observing meticulous handwashing, gowning, and masking techniques before entering the room or caring for him may be sufficient. The door to the room is kept closed. Ventilation within the room is usually controlled by an air conditioner equipped with an air filter.

b. Use of the RES-SYSTEM. The RES-SYSTEM (Regulated Environment for Safety System) is an application of reverse isolation using a self-contained plastic isolator. The patient is encapsulated within a plastic inclosure, and care is accomplished through closed plastic sleeves. (For guidance information in the use of the patient isolator, see TB MED 275.

5-102. Preoperative Patient Care

The aim of preoperative preparation is to have the patient in the best possible mental and physical condition. The success of an operative procedure depends to a large extent upon this preoperative preparation, which begins with the admission of the patient. It is important to emphasize that any surgery, regardless of whether it is recorded as a major or a minor operation, is a major procedure for the patient, so he must be prepared both mentally and physically.

MENTAL PREPARATION

Although not ordered in writing, mental preparation is just as important as physical preparation. All persons coming into contact with the patient contribute to this mental preparation. However, as nursing personnel, you can provide major assistance since you are with the patient for longer periods of time.

1. Make every approach to the patient an opportunity to show that he is an individual.
2. Keep him informed. Often many routine procedures and special orders must be carried out, and the patient can become increasingly anxious from not knowing what to expect next. Although technical information is given only by the doctor, appropriate explanations are necessary to insure understanding and cooperation.
3. Perform all procedures in a quiet, thorough, systematic manner. This is a far more effective way to inspire confidence then merely to state that "everything is going to be all right." The patient must feel that he can place himself completely in the hands of competent individuals.
4. Remember that the patient's visiting family members need reassurance and information. A worried, poorly informed relative can transmit

anxiety to the patient. Encourage the family member to ask the doctor about the patient's condition and the proposed surgery.

PHYSICAL PREPARATION

Routine preoperative physical preparation is organized in accordance with locally prepared standing operative procedures (SOP) to avoid last minute delay, confusion, or omission of an essential detail. Specific preoperative orders for each individual patient are always written by the surgeon and the anesthesiologist; these orders always modify any routine SOP. The time required to prepare the patient varies with each case. The patient may be admitted the day before surgery, several days in advance, or only a few hours before emergency surgery. However, for purposes of this manual, the immediate preoperative preparation is discussed in two parts: the day before and the day of surgery.

Day Before Surgery

All the details to be completed in order to have the patient ready for the operating room on the scheduled day and at the scheduled hour are usually listed on a preoperative checklist. In many AMEDD hospitals, a local form is used by nursing personnel. It is placed on the front of the patient's chart holder when he is scheduled for surgery. Items listed are checked off and initialed by the responsible nursing individual as they are completed. Items that do not apply to the specific patient are either ruled out or followed by the initials "N/A" (Not Applicable). Typical items on a preoperative checklist include—

1. Check of Clinical Record for—
   a. Properly filed laboratory and other diagnostic reports—*for example,* a complete blood count (CBC), urinalysis, chest X-ray, bleeding and clotting time, blood chemistries, and electrocardiogram.
   b. Preoperative medical history and physical examination record completed by the doctor.
   c. Reports and record forms prepared for use in the OR, such as the anesthesia record, operation report, and pathology (tissue examination) forms.
2. Signed authorization for surgery (SF 522, Authorization For Administration of Anesthesia and Performance of Operations and Other Procedures). This signed witnessed consent must be obtained for all nonmilitary patients. Although not mandatory for military personnel, the policy in most AMEDD hospitals is to obtain authorization for all patients. The doctor is responsible for counseling the patient and explaining the scheduled procedure in appropriate terms. The signed dated consent must then be filed in the Clinical Record.
3. Visit from chaplain.
4. Diet order. Nothing by mouth (NPO) is usually ordered after a certain hour. Cancel diet order by deleting patient's name from diet roster after evening meal, if appropriate.

NOTE

Be sure the patient is told exactly what is permitted and up to what hour. Encourage him to force fluids up to the cutoff time and then remove his bedside water pitcher and drinking glass.

5. Skin preparation order.
6. Cleansing enema order.
7. Preoperative medication orders to include bedtime sedative the night before surgery.
8. Prosthetic appliances to be removed and safeguarded (*for example,* dentures, eye glasses, contact lenses, limbs, and wigs).
9. Valuables deposited in Treasurer's Office.
10 X-rays to accompany patient to the OR immediately available on the ward.
11. Ident-a-Band or other patient identification attached to the patient's wrist.
12 Patient instructed on night and morning procedures to be performed.

Day of Surgery

Begin preparation of the patient at least 2 or 3 hours before the scheduled hour for "on call" to the operating room. Plan activities so that they are completed before the preoperative medication is given.

1. Review preoperative doctor's orders.
2. Review preoperative checklists to make sure no preliminary routine details have been omitted.
3. Take and record TPR and BP. Report any abnormal findings immediately to the ward nurse or doctor. Report and record any sign of an upper respiratory infection—cough, sniffles, or sore throat.
4. Give morning care. If a cleansing bath has not been given the preceding evening, give bath or have patient shower if time and the patient's condition permit. Cleanse or assist

patient to cleanse mouth and teeth thoroughly. Comb hair. Assist male patient to shave. Remove all hair pins, nail polish, and lipstick from female patient.

5. Remove, identify, and store prosthetic appliances, if any, in the bedside table. Place clean dentures in clean water in a labeled denture cup.
6. Dress patient in accordance with the local SOP. This may stipulate that no clothing is worn to the OR or that a clean pajama coat may be permissible, worn back to front, and left unbuttoned.
7. Check to be sure all valuables have been turned in to the Patient's Trust Fund Depository (cash, checks, wristwatch, and other jewelry). If the patient wishes to wear a wedding ring, secure it by a loop of gauze bandage tied to the wrist.
8. Have patient void before giving preoperative medication. Measure and record amount of urine on Nursing Notes.
9. Give prescribed medication as ordered. Caution patient not to attempt to get out of bed after receiving it. Use bedrails if necessary.
10. Do not allow the patient to smoke after receiving medication—remove cigarettes and matches from his bedside table if necessary.
11. Escort the OR technician to the preoperative patient. If the patient is alert, identify by asking his name. If heavily sedated or not conscious, check his bed card and wristband.
12. Assist the OR technician in transferring the patient to the stretcher.
13. Check Clinical Record for final notations and all necessary forms. Complete all entries on Nursing Notes, Doctor's Order, and checklist p.r.n.
14. Give Clinical Record including X-ray folder to the OR technician.

Transportation of the Patient to the Operating Room

The patient is usually transferred to the OR by OR personnel. However, if this is a responsibility of ward personnel, the following precautions must be observed:

1. Cover the patient with a clean cotton sheet and a clean cotton blanket. The amount of covering will depend upon the temperature and draftiness of corridors through which he is to be transported.

WARNING

If a woolen blanket must be used, the blanket is removed before entering the OR suite because of the danger of static electricity in an area where anesthetic gases are used.

2. Secure stretcher straps, one at the chest and one just below the knees before leaving the bedside. Do not apply straps tightly. Explain to the patient that they are for safety.

NOTE

If patient is transported in his bed, always have bedrails in up position.

3. When transporting the patient, never leave him alone and unattended. An assistant is often needed to hold open the elevator and corridor doors.
4. Push the stretcher feet first. Do not push it too fast, and keep it under control at all times. Use care in going through doorways and around corners.
5. Upon arrival at the OR remain with the patient just at the door or entrance until met by a responsible OR individual. Check the patient's identity with this individual and turn over the Clinical Record and the patient to his custody.
6. If the patient is awake, introduce him by name to the new individual. This is a source of reassurance to the patient in the new and mystifying atmosphere.
7. Always find out if the stretcher or bed used is to be returned immediately to the ward or left in the anteroom. (When the ward stretcher or the patient's bed is used, the patient is transferred to an OR stretcher or mobile table for movement into the OR suite.)

5–103. Skin Preparation

Skin preparation for surgery ("surgical prep") consists of cleansing and shaving an area of skin sufficiently large to provide an ample clean field for the specified operative procedure. The area to be shaved is ordered by the doctor. The procedure is often done by OR personnel but is also performed by ward personnel. Although it is preferable to bring the patient to a treatment room because of better facilities, the entire procedure can be done at the bedside. It is usually done the day or evening before surgery.

EQUIPMENT

Instrument tray (15 by 9 by 2 inches) with the following prep equipment:

Safety razor

New razor blades
Scissors
Solution basin, 2
Emesis basin
Water
Surgical soap (as prescribed)
Gauze fluffs, 12 or more
Cotton-tipped applicators
Orangewood stick
Nail clippers p.r.n.
Hair clippers p.r.n.
Plastic-backed paper pad or rubber treatment sheet with cover
Waste container (paper or plastic bag)
Floorlamp

AREAS OF SKIN PREPARATION

Areas customarily prepared for specified operations are illustrated in appendix C. (A general rule followed by experienced operating room personnel can be expressed as "when in doubt, prepare an area extending 12 inches in all directions from the proposed incision.") Since the prepared area is always more extensive than required for the incision itself, the patient must always be told this and reassured.

GENERAL PRECAUTIONS

Observe the following precautions when preparing the skin area:

1. Avoid scratching or nicking the skin. Cuts and scratches are a potential source of infection.
2. Check the doctor's order or the local policy manual for the required skin cleansing agent.
3. If a surgical soap such as a hexachlorophene detergent preparation is used, do not use other soap solutions, acetone, ether, or alcohol with it. These chemicals will neutralize the residual antiseptic properties of the prescribed detergent. If a solvent such as ether or acetone is required to remove adhesive marks or nail polish, use the solvent first and then wash it off.
4. Report any signs of pimples, a rash, or an inflammation about the operative area.

PROCEDURE

1. Check doctor's order. Know area to be prepared. When no specific instructions are given, follow the instructions below and refer to appendix C.
2. Identify the patient and explain the procedure to him.
3. Screen the patient to provide privacy. Position him to provide complete exposure of area and place protective pad under area. Adjust the light to the best angle to see hairs.
4. Wash hands.
5. Using solvent and gauze sponges, remove all adhesive marks and any fingernail polish from nails.
6. Cut off excessive hair with scissors.
7. Moisten gauze, add several drops of detergent, and lather one small area at a time, using a rotating motion. Start at the center and work outward.
8. Using cotton-tipped applicators and orangewood stick, clean all identations such as the umbilicus, toe, and fingernails, if included in the operative area.
9. Reapply lather and shave the clean skin. Apply tension by pulling the skin taut, use short strokes, and shave in the direction of hair growth. Remove lather and hair from razor blade with paper tissue. Rinse the shaved area with clear warm water, using clean fluffs. Blot dry.
10. Inspect the shaved area by viewing in good light at eye level. Reshave where needed.
11. Instruct patient to take a shower and shampoo after shaving is completed if he is physically able. Give him the same detergent used for the skin prep. Provide him with clean towel and clean pajamas. (His bed should be made with clean linen.)
12. Discard soiled sponges, applicators, and used razor blades.
13. Rinse and return basins, razor, scissors, and clippers to CMS for autoclaving.
14. Reassemble clean skin prep tray.

5-104. Orthopedic Skin Preparation

In most Army Medical Department hospitals, the orthopedic skin preparation is done the day before the scheduled date of operation by an orthopedic specialist. The patient is often sent or transported to the orthopedic cast room for the procedure. In general, the orthopedic skin preparation includes shaving as in the routine procedure, followed by a 5-minute scrub of the entire area. When the prepared area is to be draped, as well as shaved and scrubbed, the entire prepared area is covered with sterile towels secured with an elastic bandage or stockinet. (Adhesive tape to secure the towels to the skin is not recommended.) Nursing personnel on the ward must be informed about activity restrictions for the patient on his return to his ward from the preparation area; for example, following preparation of lower extremity, back, and neck, patients remain in bed until time of operation; or following preparation of shoulder, arm, and hand, patients may be up and about but must remain on the ward.

NOTE

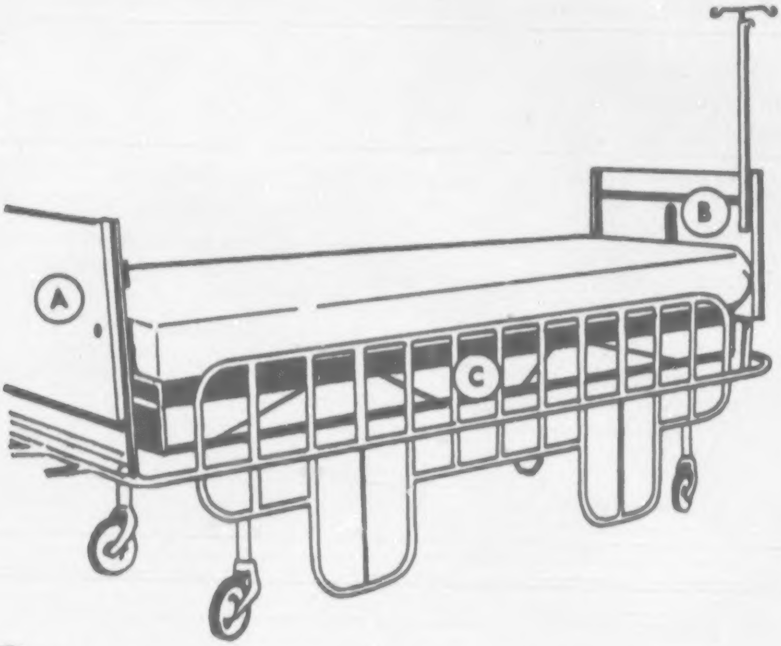
> For some patients, this restriction means that they do not go to the dining room for the evening meal, and ward personnel must therefore notify Food Service to provide tray service on the ward.

5–105. Preparation of Recovery Bed Unit

Routine preparation for postoperative patient care is completed while the patient is in the operating room. The patient unit is prepared to receive the patient, to include having in readiness any special equipment needed. In Army Medical Department hospitals, the patient is usually scheduled by the surgeon to go directly from the operating room to recovery ward until fully reacted from anesthesia; he is then returned to his assigned ward for continuing care. The medical specialist assisting with preparations for postoperative care should follow these preliminary steps:

a. Check the OR schedule. Note the type of operation and anesthesia listed. Discuss these facts with the head nurse or designated nursing team leader and review both general and special aspects of nursing care for the patient. This preliminary review of the proposed operation and anesthetic is a basic requirement for knowledgeable assistance with subsequent preparations.

b. Know what factors are considered in locating the postoperative patient unit within the ward. The optimum location may be in a multibed ward or in a single room. Other patient's units may have to be shifted; this must be done with minimum confusion. Important factors in the physical location of the unit include: the requirement for close and continuous observation of the patient; proximity to available in-wall oxygen, suction, and electrical outlets; and adequacy of space, light, and ventilation with no drafts.



Ⓐ FOOT BOARD (REMOVABLE), WITH TRACTION OPENINGS.

Ⓑ HEAD BOARD (REMOVABLE), WITH TRACTION OPENINGS.

Ⓒ OPERATING INSTRUCTIONS (PRINTED PANEL ON CENTER OF BED FRAME).

Figure 5–78. Anesthesia recovery bed.

PREPARATION OF THE PATIENT UNIT

Start with a clean, freshly washed bed. The bed may be the standard hospital bed or a special "recovery bed" (Hill-Rom type, fig. 5-78).

Equipment

For The Bed
- Sheets, 4
- Laminated cotton drawsheet, 1
- Rubber treatment sheet, 1
- Pillowcases, 2
- Pillows, plastic covered, 2
- Cotton blanket, 1
- Siderails, 2

For The Bedside Stand
- Bath towel, 1
- Hand towel, 2
- Washcloth, 1
- Paper bag
- Emesis basin
- Box of Tissues
- Mouth wedge (prepared by taping together 2 tongue blades and padding one end with gauze)

Sphygmomanometer
Stethoscope
Pencil and paper

Procedure (Standard Hospital Bed)

1. Place the bottom (foundation) sheet and the drawsheet in the usual manner.
2. Place the rubber treatment sheet to protect the upper third of the foundation. Cover the rubber sheet with a cotton sheet folded hem to hem, and placed so as to overlap the drawsheet by 3 to 4 inches. This head-of-the-bed protection is provided to protect the foundation sheet from soiling by vomitus. It is an optional measure when no vomiting is anticipated; for example, in preparing the bed for a fully reacted patient returning from the recovery room.
3. Place the top sheet and blanket as for the unoccupied bed (para 5-12). Do not tuck under at the foot of the bed.
4. Fold the sheet over the blanket to form a cuff at the head and at the foot of the bed, with the fold at the foot of the bed even with the mattress.
5. Fan-fold the cuffed top covers lengthwise to the far side of the bed (the side away from the room entrance).
6. Fit the pillows into the pillowcases. Place one pillow upright at the head of the bed, securing the ends between the rungs. Place the second pillow on the chair.
7. Arrange equipment on the bedside stand.
8. Move the bedside stand and chair to provide space for a stretcher parallel to the bed on the side facing the entrance.
9. Attach bedrails and leave in down position.

Other Needs

1. Obtain other equipment that may be needed and place in readiness at the bedside: IV stand; sterile urinary drainage bottle and tubing; oxygen equipment; suction apparatus.

NOTE

> One of more types of suction apparatus may be required; *for example*, one for gastrointestinal suction and one for airway.

2. Make sure all apparatus is in working order before the need to use it arises, in order to avoid loss of time and distraction of attention from the patient.

5-106. Postoperative Nursing Care

Nursing measures to prevent complications, to prevent and relieve postoperative discomforts, and to promote early restoration of normal body functions are begun as the patient is transferred from the operating room to the designated patient unit. Postoperative nursing measures may be classified as (1) immediate care measures, applied while the patient is reacting (regaining full consciousness) from anesthesia, and (2) early care measures applied following reaction from anesthesia, when the patient is conscious and able to respond to specific requests and directions. In most AMEDD hospitals, the patient receives immediate and early care in the surgical recovery unit (recovery ward); the nursing care that is begun in the recovery ward is continued when the patient is transferred to a general (or specialized) postoperative ward. The enlisted specialist who is assisting with care of the postoperative patient must understand that while different phases of care—immediate, early, and progressive convalescent as the patient becomes self-sufficient—are usually carried out in different ward settings, all phases are part of the total care of the patient, and none are considered as unrelated segments.

5-107. Immediate Postoperative Care

a. General. This is care given on reception of the patient from the operating room and continued until the patient is fully conscious and has re-

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gained his protective reflexes (gagging, swallowing, and purposeful movements). During this period, observe the following general precautions:

(1) Never leave a patient alone, unobserved, and unattended during the period of recovery from anesthesia.

(2) Be constantly alert to the possibility of respiratory obstruction, shock, and hemorrhage. The period of recovery from anesthesia and the first few hours after surgery are periods of danger. Report any signs noted and any doubts about any sign or symptom.

(3) Be aware of specific orders to be carried out, specific symptoms for which to be alert, and any complications which may develop and which may modify any of the general nursing care measures discussed in this section.

NOTE

Immediate postoperative nursing care is customarily under the direct supervision of a professional nurse, who evaluates the patient's condition, checks orders, sees that they are carried out, instructs the enlisted specialist who is assigned to help care for and stay with the patient, and keeps the enlisted assistant informed.

As soon as possible, the enlisted specialist reviews and discusses the operative procedure, the postoperative orders, and the patient's condition with the nurse so that he is fully informed and can therefore be of maximum assistance; this discussion should not take place at the patient's bedside.

b. Transfer of Patient From OR Stretcher to Recovery Bed. An anesthetist customarily accompanies all anesthetized patients, supervises and assists with the transfer and positioning, and alerts ward personnel to specific precautions. Unless you are otherwise ordered, observe the following precautions:

(1) Lock bed wheels before transfer is started.

(2) Prepare to assist with a 4-man, lift-sheet transfer (fig. 5-79).

(3) Follow anesthetist's instructions and signals to coordinate all movements.

(4) On signal, lift gently and smoothly. Jarring the patient's body and rough handling may overtax his circulatory system and be a factor in producing shock. The control of lifting and trans-

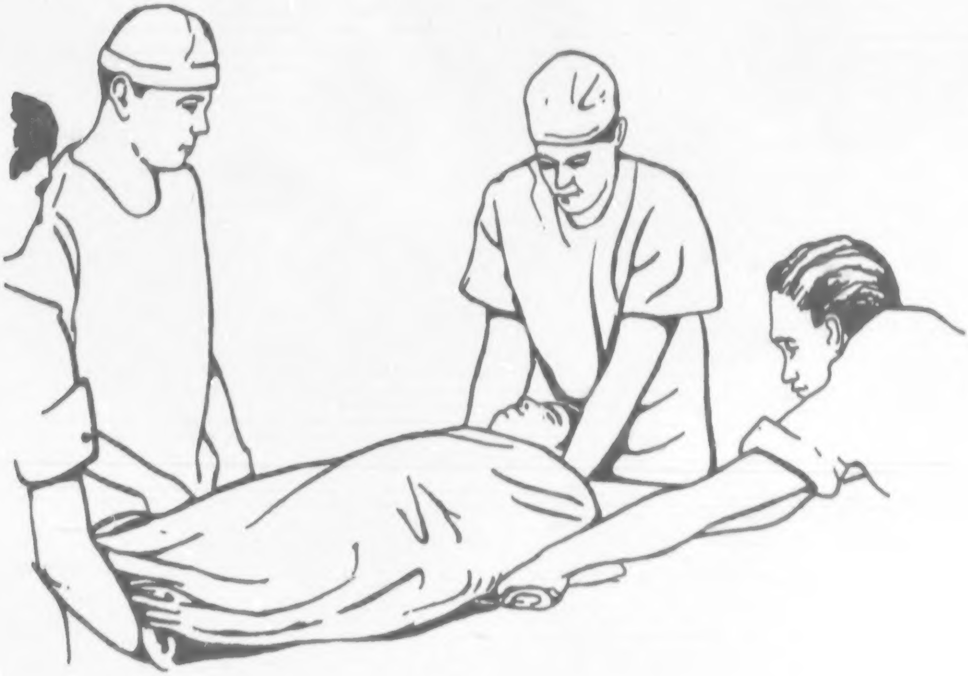

Figure 5-79. The 4-man lift sheet transfer.

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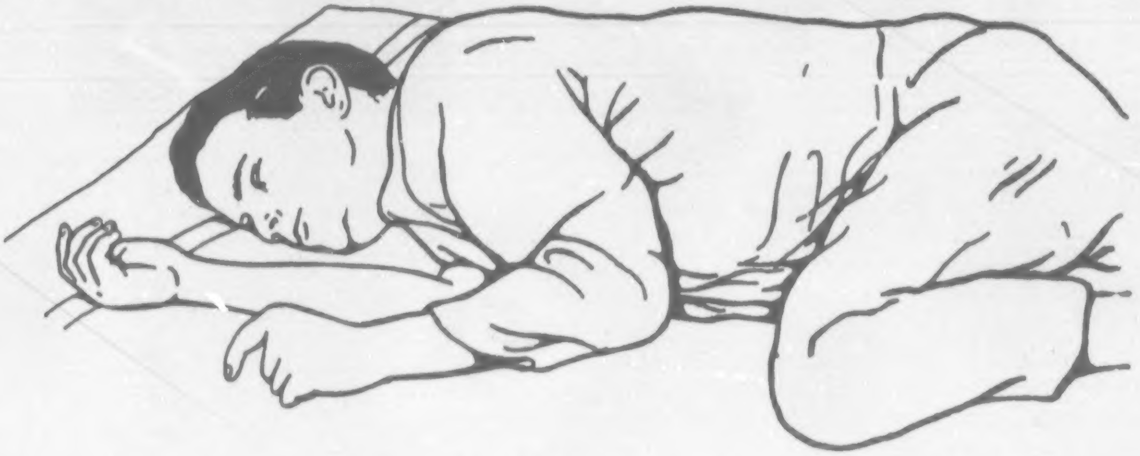


Figure 5-80. Lateral position.

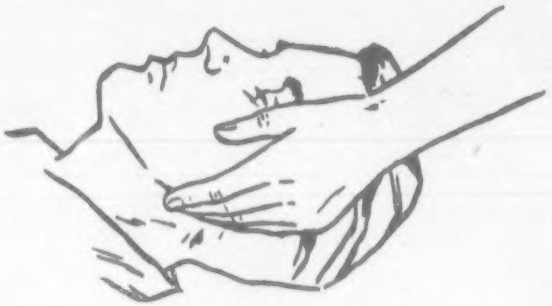
ferring movements is so important that the bed is brought to the OR for some patients in order to minimize handling.

(5) Use good body mechanics. Keep the patient's body straight, supporting head and extremities. Avoid straining yourself. Designate the tallest assistants with the longest arms for the lifting posts at either side of the bed and stretcher.

(6) Remember that the anesthetized patient must have his relaxed extremities and joints supported and kept in good alinement to prevent nerve damage from pressure and to protect muscles and joints from strain. Do not allow arms or legs to dangle during any lifting and moving procedure.

c. Assist With Positioning the Patient in Bed. Unless contraindicated, the preferred position for the patient while he is recovering from a general anesthetic is on a flat bed, in the lateral position (fig. 5-80). Place a pillow at the back to support the patient and allow the patient's shoulders and back to rest on this support. In turning and changing his position, protect and support the joints. Do not position the patient when on his side so that he is lying on his shoulder and arm—bring the shoulder and arm forward or backward to relieve pressure. Turn his face to the side, with chin extended, and flex his legs slightly at the knee, with the upper leg forward to help maintain position.

d. Maintenance of a Patent Airway. Proper positioning will often assure a patent (open, unobstructed) airway. It may be necessary to hold the lower jaw forward (fig. 5-81) to prevent the tongue from falling back into the throat. Place the fingers behind the angle of the jaw; push the jaw forward as if bringing the lower teeth in front of the upper. If necessary, grasp the tongue with a gauze sponge and pull it forward.

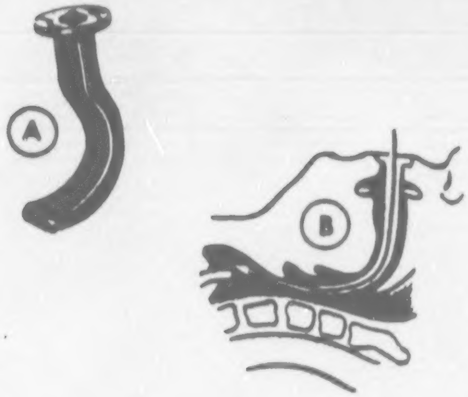


PLACE THE FINGERS BEHIND THE ANGLE OF THE JAW; PUSH THE JAW FORWARD AS IF BRINGING THE LOWER TEETH IN FRONT OF THE UPPER. IT MAY BE NECESSARY TO GRASP THE TONGUE WITH A GAUZE SPONGE AND PULL IT FORWARD.

Figure 5-81. Holding jaw in place.

(1) *Artificial airway.* The anesthetist inserts this curved device (fig. 5-82 Ⓐ) to hold the tongue forward and insure unobstructed breathing. Leave it in place until the patient indicates return of his protective swallowing reflex by gagging or pushing at the airway with his tongue. In removing the airway, follow the curve (fig. 5-82 Ⓑ) to avoid injury to the throat.

(2) *Respirations.* Observe and note respirations. Pay immediate attention to noisy, snoring respiration; these usually indicate the relaxed



IF THE PATIENT HAS HAD AN AIRWAY (A) INSERTED (B) DURING SURGERY, IT IS LEFT IN PLACE UNTIL THE PATIENT ATTEMPTS TO COUGH IT OUT.

Figure 5-88. Airway in place.

tongue has fallen back into the throat and is obstructing the airway. If this occurs—

(a) If movement of the patient is permitted, immediately roll patient from his side to his abdomen with his head down over the side of the bed. This will allow the relaxed tongue to fall forward.

(b) If patient cannot be turned, open the patient's mouth and pull his tongue forward. To do this, locate the angle of the jaw bone, press forward on the angle with thumbs and down on the chin with fingers to separate the teeth. Place the padded mouth wedge between the back teeth when the mouth has been opened. With gauze-wrapped fingers, grasp the tongue and pull it forward.

(3) *Suction.* Use suction when required to clear secretions from the throat.

(4) *Vomiting.* Stay with and assist the patient during vomiting. Keep head turned to side, chin extended. Suction as necessary to prevent aspiration of vomitus into the trachea. If an emesis basin is not on hand, do not leave the patient unattended in order to get one—soiled bed linen can always be changed when the vomiting emergency is over.

e. Dressing. Locate and check condition of dressing. Inspect the top layer, at the sides and beneath the patient to detect any oozing. Continue observations at frequent intervals. Look for blood stains on the bottom sheet, and note and report immediately the character and amount of bleeding or any drainage. Reinforce top layer of dressing if necessary, but never remove any original layers.

f. Drainage Tubing and Catheters. Locate and check all drainage tubing and catheters. Follow orders for unclamping and connecting to drainage bottle or suction. (Urinary catheters are usually attached, unclamped, and allowed to drain immediately. Chest catheters are attached to drainage or suction by the surgeon.)

(1) Secure tubing to bed as required to prevent tension and permit movement of the patient.

(2) Check at frequent intervals to be sure all tubes and catheters are free of kinks, open (or properly clamped), and not collapsed by being caught under the patient's body or by being pinched in the bedrails.

(3) Note the character and amount of drainage and any changes.

g. IV Tubing and Needle Location. Check IV tubing and needle location. Keep flow at prescribed rate. Be alert to any signs or symptoms of reactions. Use an arm board to prevent needle displacement if the patient is restless.

h. Vital Signs. Take pulse, respiration, and blood pressure while anesthetist is still present. Report initial measurements verbally to the anesthetist and record them on the bedside record. Take and record pulse, respiration, and blood pressure at specified intervals, usually every 15 minutes until otherwise ordered. Report any marked variations at once.

(1) *Pulse.* Count pulse for 1 full minute. Note rate, quality, and character. Report a pulse above 90, one below 60, and sudden increases or decreases verbally as well as by recording.

(2) *Respiration.* Count respirations for 1 full minute. Respirations should be quiet, effortless, deep, and uniform (16 to 20 per minute). Report any changes in rate, rhythm, and sound. Stay constantly alert to changes indicating an obstructed airway.

(3) *Blood pressure.* To evaluate postoperative blood pressure, the usual preoperative blood pressure should be known. As a general rule, the desired systolic BP for an adult is 100 and above, with very little fluctuation. (The BP cuff is kept in place on the patient's arm when BP is being checked frequently in the postoperative period.)

(4) *Temperature.* Take rectal temperature with initial vital signs measurements and at least

every 4 hours thereafter for the first 24 hours. Thermometer must be held in place for unconscious patient.

(5) *Skin color and temperature.* Note color, warmth, moisture, and general appearance (blotchy, rash, or reddened areas). Cold, moist ashen skin and pale color of lips, conjunctiva, and nailbeds are important signs of unstable circulation and possible lack of oxygen. With dark-skinned individuals, note particularly the color of nailbeds, temperature of finger and toe tips, and color and skin temperature of ear lobes. These checkpoints indicate adequacy of peripheral circulation.

i. State of Reactivity. Note the patient's state of reactivity. The term reactivity refers to the patient's return to consciousness (awakening) following the administration of a general anesthetic. He is said to be fully reacted when he is fully conscious. With modern methods of administering anesthesia, many patients have begun to react on return from the operating room. Partial reaction may therefore take place within a few minutes after surgery is completed, although full return to consciousness takes longer.

(1) *Signs of partial reactivity.* The patient begins to move his extremities, swallows, blinks his eyelids, and moves his tongue in attempt to expel an airway if one is present. He may groan or speak a word or two. During this period, you should—

(*a*) Always continue close observation and be in constant attendance. Vomiting may occur and the danger of aspiration is great.

(*b*) Speak reassuringly. Call the patient by name in a low, calm voice. Tell him the operation is over and that he is back in his bed again. Avoid loud noises. Avoid conversation at the bedside. Be exceptionally careful about what is said within his hearing. He may appear very groggy and cannot respond appropriately, but he can often hear and remember remarks made when he is only partially conscious.

(*c*) Control his involuntary, restless movements by gentle hand pressure or by tucking in the top covers snugly but not tightly. Increasing restlessness must always be reported immediately—this may be a sign of impending hypoxia or possible hemorrhage. As the patient begins to move about, check vital signs stat. for any variations from previous measurements. Check position and functioning of drainage tubes for possible displacement. Check dressing for bleeding or loosening of adhesive.

(2) *Signs of full consciousness.* The patient will make coordinated movements in response to definite requests—*for example,* he will squeeze your hand on request, take a deep breath, attempt to whistle, answer to his name, understand questions, and show he is oriented to time and place by remembering where he is and perhaps by recognizing personnel and remembering their names.

CAUTION

Protect the partially conscious or fully conscious but groggy patient, from falling out of bed. Use bedrails as well as close observation. Leave bedrails in up position at all times on the unattended side of the bed and to the maximum extent possible on the attended side.

(3) *Special observations for spinal anesthesia.* With spinal anesthesia the patient remains conscious, although he is usually drowsy from preoperative medication. In addition to having numbness of the trunk and extremities, he may have respiratory or circulatory depression, so he must be observed closely until vital signs become stable. He must have specific care measures because of the operative procedure but you must also observe the following precautions:

(*a*) Be alert to all irregularities in vital signs.

NOTE

It is not unusual for the blood pressure to be lower than normal during the immediate care period.

(*b*) Keep patient flat in bed until otherwise ordered (one pillow under the head may be permitted.) An initial supine position, careful turning, and no unnecessary movement for 6 to 12 hours may be ordered to minimize possibility of headache. Headache attributed to spinal anesthesia may occur 24 hours postoperatively.

(*c*) Note and record time of return of motion and sensation in lower extremities.

(*d*) Avoid pressure and strain on numb extremities. Support in good alinement.

5–108. Early Postoperative Care (After Patient Reacts)

a. General Precautions.

(1) Continue close observation of dressing.

(2) Make sure all drainage tubes are functioning.

(3) Be alert to any irregularities in vital signs as increased activities and nursing measures are started.

(4) Report observations immediately to the nurse or doctor for evaluation and additional instructions on modifications of care.

(5) Alternate periods of rest and activity as much as possible to allow your patient to recuperate from the mental and physical strain of the operation. During the first 24 to 48 hours the patient needs as much rest as he can obtain, but he must also be assisted and encouraged to carry out controlled exercises and activities that are absolutely necessary to prevent complications. Explain that he will benefit from activities that he may not feel ready for or that he fears may cause pain.

(6) Watch for and report immediately signs and complaints of pain. Medication for pain is usually given before the patient becomes intensely uncomfortable. When pain is relieved, he can relax and is better able to cooperate in moving and learning how to help himself toward recovery.

(*a*) Investigate possible contributing causes of pain and discomfort such as a need for position change, adjustment of drainage tubing, or easing of constricting binders or dressings. Appropriate comfort measures will enable the patient to receive maximum benefit from the prescribed drug.

(*b*) Medication orders usually are written for some narcotic and the order is apt to be for p.r.n. administration, indicating that the doctor is relying on the knowledge and judgment of the nurse. It is accepted policy that such medications are given only by the nurse or under the direct supervision of the nurse. In reviewing the written orders, you should note that there is usually a reduced dosage of narcotics, hypnotics, or any drug with a sedative or tranquilizing effect for the immediate or early postoperative patient. The amount of drug may be increased in a subsequent order as the patient's condition becomes stabilized and the lingering effects of the anesthetic wear off. Meperidine hydrochloride is an example of a narcotic drug frequently ordered to relieve postoperative pain; it has effects similar to morphine but with less depression of respirations.

(7) Continue to use side rails on the bed when there is any doubt about the patient's alertness and orientation. Side rails also provide support and give the patient something to pull on as he learns to assist himself in turning.

b. General Nursing Measures. In many respects, postoperative nursing measures parallel those employed for any patient requiring skilled and intensive care. The care initiated in the immediate postoperative period and carried through day and night, for the first several postoperative days will often prevent serious complications and can mean the difference between the success or failure of the surgery performed. Unless otherwise ordered, the following are considered routine postoperative nursing measures:

(1) Provide comfort and hygiene care. Start by washing his face and hands. Allow patient to rinse his mouth with plain water when he is fully conscious. Elevate the head of the bed slightly unless orders are to lie flat. Place one pillow under the patient's head. As soon as possible, give him a partial bath since most patients will have perspired heavily. Rub his back with lotion and inspect all bony prominences for signs of pressure. Change damp or soiled linen, removing postoperative protective linen when no longer required. Put clean pajamas on, reversing the jacket back to front as necessary. Assist him to brush his teeth. Replace dentures as soon as possible as an aid to both mental and physical comfort.

(2) If nothing by mouth has been ordered, plan to give mouth care every 2 hours. Allow the responsive patient to rinse his mouth frequently with plain water; if he is not allowed to rinse his mouth, wipe his lips and tongue with wet gauze. When preoperative medication such as atropine sulphate has been given to help control secretions during anesthesia, excessive dryness of mucous membranes may persist for several hours postoperatively. The patient often feels as if he has a mouth full of cotton, and moisture for his mouth and lips is an important comfort measure.

(3) Assist with position changes, alternating back and side-lying position at least every 2 hours. Use good body mechanics. Show the patient how to move and change his position within permissible limits, with the least strain and discomfort. (Follow methods discussed in paragraphs 5-15 through 5-18 for position changes and maintenance of good body alinement.)

(4) Check functioning of drainage tubing and condition of dressing during and after each change in position.

(5) Encourage deep breathing to insure good lung expansion and aeration of lung tissue. Show

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the patient how to breathe deeply by placing his hand on his abdomen to feel the pulling in of abdominal muscles with a deep inspiration. Tell him to take 10 such deep breaths every hour and check to see that this is done.

(6) Keep accurate record of intake and output.

(*a*) *Intake.* When oral fluids are permitted, start with sips of cool (not iced) water. As initial small amounts are tolerated, with no nausea or vomiting, encourage intake of water frequently but not excessively at any one time. Up to 200 ml. per hour taken in small amounts at a time may be permissible to help restore and maintain fluid balance. Because of fluid loss during surgery, parenteral fluids are often ordered during the first day to supplement oral intake. When a regular or other solid-food diet is ordered for the first or second postoperative day, encourage the patient to eat as much as he can of the food served. Some patients are very reluctant to eat, fearing nausea or vomiting, and they need encouragement. Do not be too insistent. Report progress or failure with food intake after each meal.

(*b*) *Voiding.* Note frequency and amount voided. Report immediately if patient has not voided within 8 hours following return from OR. The bladder may tend to hold accumulated urine for a longer period of time than usual following surgery, but after 8 hours, provision must be made to relieve the distended bladder and the discomfort that results from urinary retention. The doctor will order catheterization when necessary, but you may try other measures first. If permissible, get the patient out of bed. Help the male patient to stand to void; seat the female patient on a commode or place a warm bedpan on the chair. Apply warm moist towels to the suprapubic region and pour warm water over the genitalia.

(7) Assist the patient to cough effectively. Coughing is encouraged in order to clear mucous secretions from the bronchi, unless contraindicated (*for example,* following surgery on the eyes, brain or spinal cord when coughing may cause excessive internal pressure changes). If secretions are allowed to accumulate, they block the bronchi and prevent air from reaching lung tissue. Effective coughing, deep breathing, and change of position are all measures which help prevent atelectasis, a serious condition of lung collapse due to incomplete aeration of lung tissue. Atelectasis can occur within 24 hours postoperatively if preventive measures are neglected or not carried out effectively on the recommended hourly or every 2-hour basis. When coughing is prescribed, teach and assist the patient to cough effectively. It is often a painful experience and maximum assistance is needed. Otherwise the patient will try to suppress the cough or will "hack" or merely clear his throat. He can cough most effectively when sitting upright, with his incision firmly supported by manual pressure to prevent undue strain. The following method of assisting the patient is recommended:

To Assist Patient to Cough
(Sitting Upright)

- Using good body mechanics, assist the patient to sit upright in bed. Provide him with a pull rope attached to the foot of the bed to help him to sit up and maintain his position. Looped web belts (stretcher straps or trouser belts) can be used for an effective pull rope.
- Hand him several tissues, folded in layers, to "cover the cough."
- Stand at his side, placing your hands firmly on either side of the incision. As an alternative to splinting the incision with the hands, use a bath towel folded lengthwise; center it over the operative area and grasp both ends.
- Instruct the patient to inhale deeply, to cough on exhalation, and to expectorate coughed-up secretions into the tissue. As he exhales and coughs, exert pressure on the incision with hands or towel splint.
- Repeat cough procedure. Three successive deep coughs are often necessary to clear the bronchi.
- Inspect used tissue to note secretions before discarding in bedside waste bag.
- Assist patient to comfortable resting position.
- If coughing procedure causes fatigue only and no production of sputum, report this immediately.

To Assist in Coughing When Patient Cannot Sit Up

- Turn patient to supine position, with head of the bed elevated to permissible limit.
- Remove restraining bed clothing from chest area.
- Proceed as in steps above.

(8) Assist with prescribed bed exercises and early ambulation to help restore normal functioning of all body systems. Both of these measures when started within 24 hours after surgery may prevent thrombus (clot) formation in the venous

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circulation, particularly in the pelvis and lower extremities.

(*a*) *Bed exercises.* One recommended series of lower extremity exercises can be started as soon as the patient is permitted to move about in bed. (More specialized exercises are usually taught and supervised by physical therapy personnel.)

CAUTION

Loosen bed linen so that there is no constriction of legs or feet.

- Turn patient to supine position, with bed flat.
- Tell patient to: bend his knees, straighten his knees and, when legs are fully extended, try to push the backs of his knees hard against the mattress, holding this pushing movement for 5 seconds. Then tell him to relax, take two deep breaths, and repeat the movements at least 5 times.
- To check on his ability to do this active exercise, slip your hand, palm down, under the popliteal area when his leg is fully extended, and tell him to concentrate on pushing down the back of his knee against your hand.

NOTE

When done successfully, this part of the leg exercise is called quadriceps setting. Quadriceps setting is often prescribed when no other lower extremity movement is possible; it contracts thigh and calf muscles and helps maintain muscle tone and circulation. Encourage and remind the patient to repeat the "setting" exercise at least every 2 hours. Check on his ability to do it as instructed by supervising him at least every 4 hours.

(*b*) *Early ambulation.* Early ambulation means getting the patient out of bed and assisting him to walk (often within the first 12 hours postoperatively). This may be a very complex procedure, requiring a high degree of nursing skill and judgment. It must be done when ordered, while at the same time continuing treatment with IV fluids, drainage tubes, indwelling urinary catheters, and all other complicating treatment factors. In addition to the management of the understandably apprehensive and wobbly patient, all the treatment equipment must be maintained in operational order.

To Assist the Patient to Ambulate Postoperatively

- Check vital signs before getting the patient up. If in doubt as to the patient's condition, report observations to the nurse or doctor and request evaluation.
- If drainage tubes are present, find out which may be clamped off temporarily and which must continue to function. In general, nasogastric tubes may be clamped and disconnected from the drainage bottle but urine-drainage catheters are left open, to continue to drain into a portable drainage bottle.
- If IV fluids are to continue, secure the patient's arm to an arm board. Hold the bottle at shoulder height or hang it on a mobile pole and push the pole as the patient walks.
- Check dressing and reinforce as necessary. If a binder is used, make sure it is applied smoothly and securely while the patient is flat in bed to provide the required support.
- If supporting elastic bandages or stockings are ordered, apply them while patient is in bed and supine.
- Dress patient in pajamas and robe. Secure all fastenings so that there will be no exposure and so they will fit properly, in order to avoid having the patient worrying about holding up his trousers while attempting to stand and walk.
- Provide well-fitting slippers or shoes so that the patient can walk and not shuffle. If muslin scuffs are used, select an appropriate size and tie them securely.
- Using good body mechanics, assist the patient to sit upright at the side of the bed. When he feels secure, assist him to stand at the side of the bed. Have an assistant present if needed.
- Stand beside the patient and walk close to him. Encourage him to stand upright and to breathe deeply. Most patients tend to bend over, to clutch their incision, and to be understandably apprehensive. A recommended method to provide maximum support for a weak patient is to link arms so that the patient's palm is up and the assistant's palm is down. If the patient starts to sway or lose balance, the assistant can immediately slide his arm up into the patient's axilla and balance the patient against his hip.
- Assist the patient to walk the recommended distance before returning him to a chair or to bed.

5–109. Postoperative Complications

The complications discussed in this section are not limited to postoperative situations—they may occur with other conditions of disease and injury. It is important to remember that when resistance is lowered, as it is following surgery, complications can develop and one complication can follow another. Good preoperative and postoperative care prevents many of the complications that were once fairly common. The skilled medical specialist should know the types of complications which may occur, actions he can take to help prevent them, the significance of early signs and symptoms, and the basic principles of treatment. Complications to be particularly aware of are shock, hemorrhage, circulatory problems (other than shock and hemorrhage); respiratory problems; gastrointestinal problems, and fluid balance problems.

SHOCK

a. Definition and Causes. Shock is a body reaction to injury or disease; it is a condition in which there is not enough blood in circulation, to fill the vascular system. As a result of ineffective circulation there is interference with the basic physiologic process of the blood stream—delivering oxygen and other essential elements to body tissues and removing waste products. Reduction of blood volume in circulation can result from—

(1) Actual loss of blood through internal or external hemorrhage. .

(2) Loss of plasma, the fluid part of blood, by seepage into tissues at the site of injury, as in burns, contusions, and crash injuries.

(3) Excessive loss of fluids and electrolytes from the intestinal tract through severe vomiting, diarrhea, and continued gastrointestinal suction.

(4) An abnormally sudden increase in the capacity of the vascular system (vasodilation). Many blood vessels dilate at the same time and, although there is no actual loss in the amount of blood, blood fails to move along in the dilated vessels.

b. Signs and Symptoms. The signs and symptoms of shock are all related to ineffective circulation and depression of vital body processes. The signs and symptoms listed below may not be equally prominent or appear in every patient, but they are representative of the picture presented of the patient in shock (fig. 5-83).

(1) Pale, cool, moist skin.

(2) Falling blood pressure.

(3) Weak, rapid, thready pulse.

NOTE

A progressively falling blood pressure combined with increasing pulse rate are two of the most important signs.

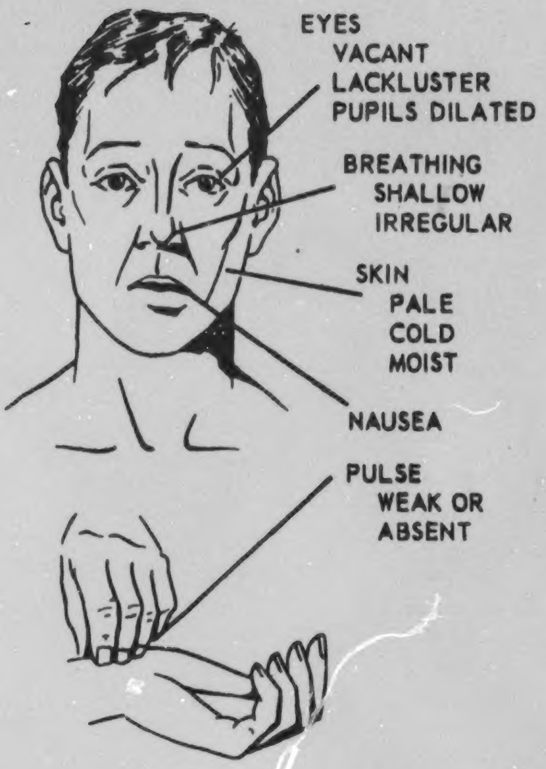

Figure 5-83. Patient in shock.

(4) Rapid, shallow respirations.

(5) Anxiety, changing to listlessness and apathy.

(6) Staring or vacant expression in the eyes. The pupils are apt to be dilated unless morphine has been given recently.

c. Prevention Measures. Shock should be anticipated in all individuals subjected to known causes of shock—physical and emotional stress, any severe injury, loss of blood, or loss of other body fluids. Accident victims and postoperative patients are in this category. Shock may develop slowly; the characteristic signs may not appear for several hours. In incipient or impending shock (shock that has not yet developed), none of the signs may be present, but preventive measures should be taken as follows:

(1) Keep patient horizontal so that available circulating blood does not have to move against gravity. If the patient must be moved, move him gently.

(2) Cover lightly to conserve body warmth. Avoid overheating because this contributes to dilation of peripheral blood vessels.

(3) Use prescribed sedative and analgesic drugs cautiously. Relief of pain is desirable, but these drugs also tend to depress the mechanisms of the central nervous system which control and maintain blood pressure.

(4) Maintain a quiet, calm atmosphere to reassure the patient and make him feel secure.

(5) Observe vital signs frequently and regularly to detect irregularities and sudden changes.

d. Treatment Measures. While complete treatment depends upon the underlying cause, emergency measures include the following:

Treatment Measures for Shock

1. Place two pillows beneath the patient's feet, with flexion at the knees. This will create pooling of blood in the abdomen without pressure on the diaphragm.

EXCEPTION to shock position: head surgery and spinal anesthesia patients should remain horizontal unless otherwise ordered.

2. Keep airway clear.
3. Stay with the patient. Send for help. Do not leave the patient unless a competent person is present to stay with him until you return.
4. Be prepared to assist with IV and blood transfusion.
5. Be prepared to assist with oxygen therapy by mask or catheter. Start oxygen administration immediately at 6 liters per minute if cyanosis of lips, nailbeds, or earlobes is noticed.
6. Maintain close watch on urine output. Note amount and time of each voiding. If urinary catheter is used, note hourly output. To measure hourly output from a urinary catheter, tape a 30 ml. or 50 ml. Luer syringe barrel to the side rail of the bed. Attach drainage tube leading to a large collecting bottle to the tip of the syringe, and clamp this tube. Place the free end of the drainage tube leading from the catheter just within the open end of the syringe barrel. After reading and recording the urine measurement in the syringe barrel, release the clamp to allow the urine to enter the large collecting bottle. Reapply the clamp until the next scheduled interval for reading and recording urine output.
   a. An hourly output measurement is often ordered whenever there is a condition of oliguria (diminished urine secretion) or suspected anuria (absence of urine secretion).
   b. A critical point for effective kidney function is reached when systolic blood pressure drops below 80 mm. of mercury. Failure of the kidneys to form urine (renal shutdown) may result and continue after the blood pressure returns to normal. This may be a fatal complication. A general rule to observe in caring for all patients who have been in shock is: if after 2 hours of normal blood pressure, no urine or less than 25 ml. per hour is obtained, report this finding immediately to the doctor or nurse.
7. Maintain close watch as shock treatment measures are discontinued gradually when vital signs return to normal and become stable. One valuable test of return of circulatory control is the ability of the patient to maintain stable vital signs as his position is gradually changed from shock position to horizontal, to a slight elevation of his head. No sudden or abrupt movements are permitted.

HEMORRHAGE

a. General. Hemorrhage is bleeding from blood vessels due to a break in their walls. Realization of the possibility of delayed hemorrhage occurring either externally or internally as a postoperative complication is of utmost importance. During the operation, the surgeon controls the bleeding by pressure on oozing capillaries and very small vessels and by ligating (tying off) larger vessels. Reactionary (secondary) bleeding may occur within a few hours after the operation when circulation and blood pressure return to normal; owing to the depressing effect of the anesthetic on circulation, bleeding from capillaries may be very slight during the operation but increase considerably as the effect of the anesthesia wears off and the heart beat becomes stronger. This increased blood pressure may also cause bleeding by displacing blood clots previously formed or may even cause a ligature to slip from a large vessel. The patient may lose small amounts of blood over a relatively long period of time or a large amount (500 ml. or more) in a sudden massive hemorrhage.

b. Signs and Symptoms.

(1) Visible evidence of hemorrhage is noted by—

(*a*) Inspecting dressings.

(*b*) Inspecting the bedding under the patient.

(*c*) Noting presence of blood in vomitus, sputum, urine, feces, and drainage from tubing or catheter.

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(*d*) Noting color change of drainage from the dark red or brownish color of old blood to the bright red of fresh blood.

(2) Evidence of internal bleeding is detected by keen observation. Be alert for symptoms of—

(*a*) Restlessness.

(*b*) Thirst.

(*c*) Apprehension.

(*d*) Increasing pulse rate.

(*e*) Falling blood pressure.

Treatment Measures for Hemorrhage

1. Notify nurse or doctor. Send for help. Stay with the patient unless competent help is present to relieve you while you obtain emergency equipment or other supplies.
2. Do not disturb or remove any part of the dressing. If external surface is blood-soaked, reinforce by placing large, dry, sterile compresses over it.
3. Save all evidences of bleeding for estimation of blood loss. This includes linen, emesis basin containing vomitus, and bedpan containing stool. Remove these from the bedside to lessen the patient's apprehension, but do not discard until so ordered.
4. Keep noise and confusion to a minimum.
5. Treat for shock.
6. Be prepared to assist with immediate transportation of the patient to the operating room.
7. Be prepared to assist with blood transfusion. Multiple units of blood (2500 ml. to 3500 ml. or more) may be necessary.
8. Be prepared to assist with blood plasma, dextran, or electrolyte solution infusion. The type, speed, and the sequence in which all IV fluid replacements are given are always determined by the doctor.
9. In hemorrhage from the gastrointestinal tract, be prepared to assist with gastric intubation if a tube is not already in place. Ice water irrigations of the gastrointestinal tube may be ordered or an enema to clear accumulated old blood from the rectum and lower bowel.

CIRCULATORY PROBLEMS

Thrombophlebitis

Thrombophlebitis is inflammation of a vein with blood clot formation. Venous stasis (slowing of venous blood circulation) and pressure or other injury to vein walls predisposes to its development. The most common sites for development of thrombophlebitis are in the veins of the pelvis and legs. A postoperative patient or any other individual who has remained still for hours at a time, with relaxed muscles and a resultant slowing of venous circulation in the legs, is particularly liable to develop thrombophlebitis; when inactivity is combined with pressure on the popliteal space and the calf of the leg, the possibility of developing it increases.

a. Signs and Symptoms of Thrombophlebitis.

(1) Cramping pain in the calf.

(2) Possible redness, warmth, and swelling along the course of the involved vein.

(3) Pain which may appear only on dorsiflexion of the foot.

b. Treatment Measures.

(1) Do not under any circumstance rub or massage the affected limb.

(2) Place the patient on immediate bed rest and notify the medical officer.

(3) Keep affected limb horizontal and at rest until the medical officer has examined the patient and ordered specific treatment. Support the entire limb from the thigh to the ankle on pillows, keeping the limb level unless otherwise ordered. Orders for treatment may include elevation and application of continuous, massive, warm, moist packs to the entire limb.

(4) Use a bed cradle to prevent any pressure from the bed linen.

(5) Be alert to any complaint or other evidence of respiratory difficulty or chest pain. A clot which is adherent to the vein wall, or a portion of a clot, can become dislodged and be carried in the circulation as an embolus to distant and smaller arterial blood vessels in the lungs. Sudden dyspnea, violent coughing, or severe chest pain may be the first sign or symptom of embolism.

(6) Discontinue routine postoperative exercise, ambulation, deep breathing, and coughing measures until the medical officer has indicated which measures are to be resumed and which precautions are taken.

(7) Carry out all subsequent treatment and nursing care measures so as to avoid abrupt movements and any strain on the part of the patient.

(8) When ordered, apply bandages to give support and aid venous circulation:

(*a*) Use a 3-inch or 4-inch cotton elastic bandage. Two or more are usually required for each extremity.

(*b*) Apply bandage with the patient supine and his foot supported in a neutral position (slight dorsiflexion).

(*c*) Start just proximal to the toes and apply smoothly and snugly, overlapping each turn evenly to avoid any constriction or pinching of skin from bandage edges. Include the heel. Wrap from toes to 1 inch below the bend of the knee, or include all of the thigh to the groin, according to orders.

(*d*) Remove bandages at least once daily to care for and inspect the skin. Wash and dry the involved area using gentle stroking motions, but no patting or rubbing motions. Report immediately any evidence of pressure, wrinkles or edema.

(*e*) Reapply clean, resilient bandages following skin care and inspection of all skin areas. Cotton elastic bandage loses its resilient quality in use, but it can be laundered and its resilience maintained for several reapplications. Send used bandages to the laundry, preferably in a mesh bag. Obtain fresh bandages from CMS. Do not use a bandage that is not resilient—it will bind and restrict circulation instead of aiding it.

(9) When patient is allowed out of bed, remind him to alternate walking and resting with feet propped on a stool to avoid pressure in the popliteal space. Prolonged standing or sitting with no movement must be avoided. Check to see that the edge of the chair seat does not press the popliteal space and that the patient does not sit with crossed legs.

Embolism

An embolus is a blood clot or other foreign particle (fat globule or air bubble) floating in the bloodstream. The embolus is usually undetectable until it suddenly lodges in an arterial blood vessel. This may occur when the patient is apparently convalescing and progressing normally. If the embolus is sufficiently large and the arterial vessel which it obstructs supplies a vital area in the lungs, heart, or brain, the patient may die before any symptoms of embolism are detectable. A special type of embolism, pulmonary embolism, is caused by the obstruction of a pulmonary artery by an embolus. The most frequent cause of a postoperative pulmonary embolism is a thrombosed vein in the pelvis or lower extremities. Therefore, measures to prevent development of thrombophlebitis are the most important ones to take to prevent the possibly fatal complication of pulmonary embolism

a. Signs and Symptoms.

NOTE

May or may not be observable.

(1) Sudden signs of shock and collapse.

(2) Sudden, sharp, stabbing chest pain.

(3) Sudden violent coughing and hemoptysis (spitting of blood).

b. Treatment Measures.

(1) Call the doctor.

(2) Insure absolute bed rest. Elevate head of bed to relieve respiratory distress.

(3) Prepare to start oxygen by mask at 6 to 8 liters per minute.

(4) Take and record blood pressure, pulse, respiration.

(5) Prepare to give medication by injection to relieve pain and acute apprehension. A narcotic drug such as morphine sulfate or meperidine hydrochloride is often ordered; if ordered for IV injection, it is given by the doctor.

(6) Prepare to continue intensive nursing care and constant observation. (The total care of the patient who survives a pulmonary embolism is similar to that of a patient who has had a myocardial infarction.)

NOTE

Anticoagulant drug therapy in thrombophlebitis and embolism.

Anticoagulant drugs such as heparin sodium and coumarin compounds lessen the tendency of blood to clot. They are frequently ordered as a part of the medical management of patients who have developed thrombophlebitis or who have survived an embolism. These drugs do not dissolve thrombi which have already formed but are an important treatment measure to prevent extension of a clot within a blood vessel or to prevent further intravascular clot formation. Anticoagulant drugs act by prolonging the clotting time of blood. Since a patient who has once developed thrombophlebitis may have a recurrence, he may be continued on an anticoagulant drug indefinitely as a prophylactic measure. Nursing personnel have a responsibility to recognize that any patient receiving an anticoagulant drug must be observed closely for any bleeding from a body opening—mouth, nose, urinary tract, or rectum. Individual patients differ widely in their response to anticoagulant drugs and if bleeding occurs, the doctor must be notified at once and the drug discontinued. Drug dosage is regulated very carefully by the doctor in relation

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to the individual patient's prothrombin determination, a laboratory test which requires obtaining a blood specimen by venipuncture. Certain drugs should not be given with anticoagulants. Aspirin and aspirin-like drugs increase the effect of the anticoagulant. Phenobarbital and phenylbutazone (butazolidine) decrease the effects of the anticoagulant. Because of the potential hazards of anticoagulant drug therapy and the complicated dosage orders to be followed, local policy often states that only the nurse may administer the drug. The medical specialist should know which patients are receiving an anticoagulant, be alert for any bleeding tendency, and report his observations immediately.

RESPIRATORY PROBLEMS

a. Prevention. When preventive measures have been carried out during the immediate and early postoperative periods, the possibility of atelectasis and of pneumonia developing are greatly reduced. Keeping the airway clear to prevent aspiration, deep breathing, coughing, turning and changing the patient's position q.2 h., and early ambulation are all basic measures to prevent respiratory complications. In addition to these routine postoperative measures, it is important to emphasize protecting the patient from contact with personnel, visitors, or other patients who may have an upper respiratory infection.

b. Special Preventive Treatment Measures. Patients with chronic respiratory diseases, elderly patients, children and infants, or brain damaged adults who cannot follow verbal instructions, and any patient whose movements are necessarily restricted because of the kind of surgery performed often need treatment measures in addition to routine preventive measures to help them to cough and clear their bronchi of secretions. Special treatment measures ordered may include—

(1) Steam inhalations or nebulized cool-vapor inhalations. Increased moisture in the inhaled air helps to liquify accumulated secretions and facilitates coughing them up to clear the air passages.

(2) Intermittent positive pressure breathing (IPPB) treatments with special apparatus to administer nebulized medications and moistening agents.

(3) Deep intratracheal suction to stimulate the cough reflex. This is suction by a nasal catheter which is passed down into the trachea to the bronchial area. A doctor or a nurse is responsible for this type of suctioning.

(4) Bronchoscopy, an operative procedure, to remove secretions which cannot be coughed up and which are blocking the air passages.

(5) Tracheostomy, an operative procedure, to insure an open airway which must be kept open by suctioning. A tracheostomy is sometimes performed during the initial surgery when the surgeon anticipates difficulty in maintaining a clear airway postoperatively.

c. Signs and Symptoms of Developing Respiratory Problems.

(1) Temperature elevation 24 to 48 hours postoperatively.

(2) Pain in chest.

(3) Cough.

(4) Dyspnea.

d. Treatment Measures for Respiratory Complications.

(1) Increased attention to all preventive measures.

(2) Antibiotic therapy.

(3) Isolation.

(4) Bed rest, or a combination of bed rest and ambulation.

(5) Oxygen and other forms of inhalation therapy.

GASTROINTESTINAL COMPLICATIONS

a. General. A certain amount of nausea and some initial vomiting may follow general anesthesia, but are not inevitable; many patients do not experience these once-anticipated discomforts. However, when they do occur and persist beyond the immediate anesthesia recovery period, treatment is started to combat their effects. Persistent nausea seriously reduces the possibility of the patient taking adequate fluid by mouth; excessive vomiting causes both dehydration and loss of electrolytes. Treatment orders may include parenteral medication to relieve nausea, IV fluids to replace electrolytes and relieve dehydration, and gastrointestinal intubation and suction to rest the gastrointestinal tract. Basic nursing measures which are helpful include maintaining a quiet, cool, odor-free environment; gentle handling and no abrupt position changes since motion tends to increase nausea; and reassurance.

NOTE

The young military patient often becomes nauseated from a prolonged period without eating. Food or fluid as soon as permitted will generally relieve his symptoms immediately.

b. Failure of Peristalsis. Acute dilation of the stomach and paralytic ileus sometimes occur when there is an accumulation of gas and fluid which the stomach and small intestine are unable to pass along because of a failure of normal peristalsis. This complication may develop 2 to 4 days postoperatively and cause great discomfort or pain. Almost immediate relief is obtained by intubation (accomplished by the doctor) and suction for decompression of the dilated stomach and small intestine. The ability of the patient to expel flatus (gas) by rectum is an indication that normal peristalsis is being re-established.

c. Fluid Balance Problems. The major nursing responsibility in maintaining fluid balance and preventing fluid balance problems is a constant awareness of the necessity for maintaining an accurate intake-output record (para 5-46). Follow all medical orders for fluid and nutrition therapy. Be alert to the patient's acceptance of his prescribed diet. Report problems immediately.

5-110. Tracheostomy Nursing Care

Tracheostomy is a surgical procedure performed to provide an unobstructed airway. In the hospital setting it is usually done in the operating room, although in extreme emergency it may be done at the bedside. Following establishment of the airway, a tracheotomy cannula (tube) made of silver metal or of plastic material is inserted. Essential postoperative care always includes frequent and gentle aspiration of the tube and the trachea to keep them cleared of accumulating secretions.

a. Tracheal Cannula Set. The cannula set includes a 3-part tube set (fig. 5-84 Ⓐ and Ⓑ) and a tracheal dilator (fig. 5-84 Ⓒ), a type of retracting instrument.

(1) The outer tube has a slotted flange on either side, to which tapes are tied, and a small lug (lock).

(2) The inner tube fits into the outer one and is locked in place when the lock is moved to down position.

(3) The obturator is used by the surgeon as a guide when inserting the outer cannula into the tracheal incision.

(4) The dilator is used to hold the edges of the incision apart so that the outer tube can be inserted.

(5) In routine care of the tracheotomy tube, the inner tube is removed by nursing personnel for cleansing; the outer tube is removed only by the physician. Care must be taken not to damage or drop any part—if bent or dented, it will not fit properly and the parts of one set are not interchangeable with parts of another.

(6) The obturator of the set in use and a dilator for emergency use must always be kept, clearly marked, at the patient's bedside; both should accompany the patient when he is transported away from his bed unit.

b. Preparatory Nursing Measures. In addition to routine preparation of the patient unit for postoperative care, the following measures for tracheostomy care require advance planning:

(1) *Constant attendance.* The patient will require constant attendance for at least the first 48 hours. The medical specialist must always remember two things: that the patient's life depends upon a clear airway and that the tracheotomized patient will have a temporary loss of voice. Place a pencil and paper on the bedside table so he will know that a means of communication has been provided for him. Leave a tap bell always within his reach; the sound of the bell attracts attention as a substitute voice and is usually more reassuring to the patient than dependence on a signal light.

(2) *Provision of warmth and humidity.* For the first few postoperative days and for longer periods when required, keep the patient in a room where the temperature can be maintained at about 80 degress F. (warmer than usual ward temperature). Use a steam vaporizer or other humidifying apparatus constantly to moisten the air. These two measures help to reduce the tracheal irritation that results when inspired air has bypassed the natural warming and humidifying nasopharyngeal passages.

(3) *Preparation of patient unit for postoperative care.* The equipment listed below should be available at the bedside. Because of the number of items required, it is advisable to provide a mobile table or an additional bedside cabinet within the unit.

EQUIPMENT

Suction and pressure apparatus (mobile, portable, or wall unit)
Y-tube connector, for catheter
Sterile suction catheters (size 14 or 16 for adult)

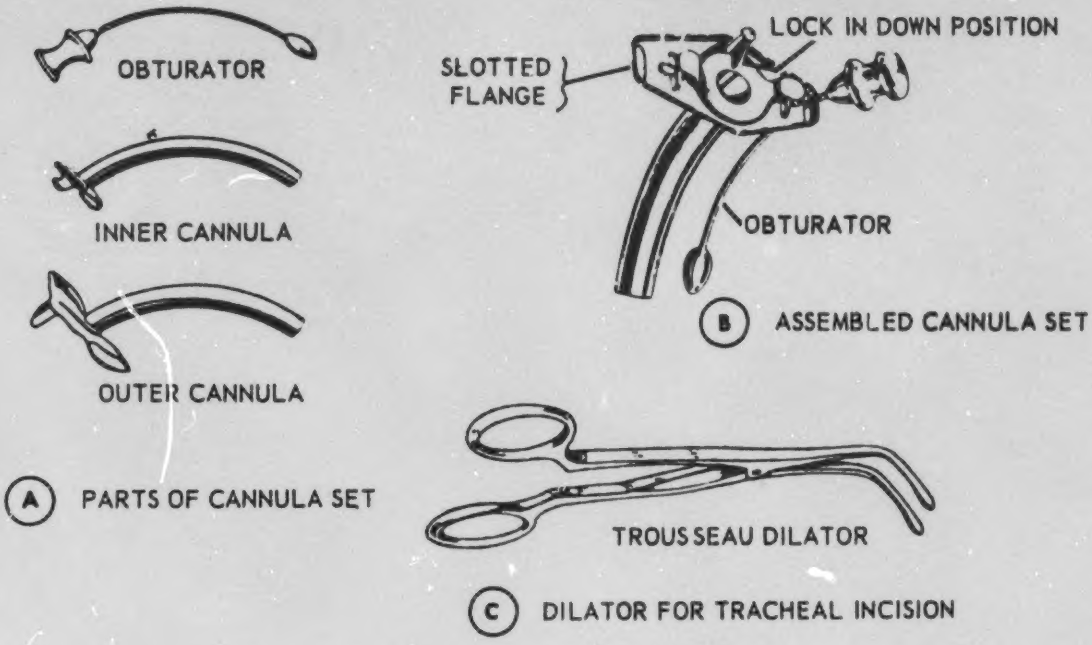


Figure 5-84. Component parts of tracheal cannula set.

Tracheotomy dilator, sterile (Trousseau dilator or Kelly forceps)
Tracheotomy cannula set (duplicate of set in use)
Sterile gloves (plastic, disposable), package
Sterile medicine glass and medicine dropper (or sterile 2 ml. syringe)
Sterile saline, flask
Sterile dressing set: scissors, thumb and Kelly forceps, gauze, 4 x 4 inch or other approved dressings
Sterile gauze, 2 x 2 inch, package
Sterile towels, package
Sterile water, flask
Oxygen supply with humidifier
Steam vaporizer or jet vapor humidifier
Cotton twill tape, roll
Bandage scissors
Basin, emesis
Hydrogen peroxide (or commercial surgical cleaner such as Hemosol)
Pipe cleaners or test tube brush
Pencil and paper
Tap bell
Adhesive tape, roll
Transfer forceps in container
Foil-wrapped germicide wipes (for hand cleansing)

CARE OF THE TRACHEOTOMY

Precautions

1. *Aseptic technique.* Apply basic principles of aseptic technique in caring for the incision and the airway. The tracheotomy wound is easily infected and tracheobronchitis and other respiratory tract infections such as bronchopneumonia can result from poor technique. Although strict surgical asepsis is difficult to maintain because of the nature of the wound and the secretions which are present, the following measures are important:

a. Use separate catheters for nasopharyngeal and tracheotomy suctioning.

b. Use separate flasks of sterile water for clearing the separate catheters. Clearly mark each flask "Nasal Catheter" and "Tracheal Catheter."

c. When possible, replace the used tracheal catheter with a sterile one for each aspiration. When this is not possible, clear the used tracheal catheter in water and place between sterile towel folds. The medical officer may recommend that the catheter be kept immersed in a mild, aqueous, germicide solution such as benzalkonium chloride (Zephiran) of a prescribed dilution.

d. Wear a new plastic, disposable glove on the hand used for manipulating the tracheal catheter. Discard the glove after each use. This measure is particularly helpful when handwashing at the bedside is not possible.

- e. Keep the dressing clean and dry. NOTE: Initially, there may be two dressings. One is a gauze or surgical plastic-film dressing on the sutured incision area above the cannula; this dressing is changed only by the medical officer and is omitted when the sutured area heals. A second, the "tube dressing," should be changed as often as it becomes soiled by the secretions.

2. *Special observations.* Observe the patient constantly for such signs of respiratory obstruction as a bubbling sound during respiration, restlessness, cyanosis, or an increase in the pulse rate. In addition to these observations, watch for bleeding from the incision and in the aspirated secretions; for coughing; or for choking when swallowing saliva or oral fluids. (There may be some damage to the esophagus, with leakage of swallowed secretions into the trachea.) Any of the above signs must be reported immediately. Use care when shaving a male patient to prevent any hair from being aspirated—protect the tube opening with a moistened gauze square that will trap any small hairs but not obstruct the airway.
3. *Position and position changes.* Usually the patient is comfortable in a semirecumbent position. Assist and encourage him to change his position frequently and to turn from side to side at least q. 2 h. to promote aeration of the lungs and to aid drainage of secretions.
4. *Suctioning the tracheotomy tube.*
   - a. Be gentle. Forceful introduction of the catheter and too strong suction pressure will damage the mucous membrane.
   - b. Suction as often as needed to keep the tube clear. This may be every 5 to 10 minutes during the first few hours postoperatively.
   - c. Limit each aspiration to about 5 seconds. The presence of the catheter in the tube reduces the airway.
   - d. Flush the catheter before and after each aspiration. Check to see that the sterile water passes completely through the tubing to the suction bottle. Do not allow the bottle to become overly full.

Suctioning Technique

1. Test suction. Turn on suction apparatus and place tip of the catheter in the flask of sterile water labeled "Tracheal Catheter." Use the gloved hand to handle the catheter and the ungloved hand for other manipulations.

CAUTION

Check pressure gauge on apparatus and do not exceed prescribed pressure. As a general rule, the range for an adult will be 7 to 15 inches if gauge is calibrated in inches or 120 to 150 mm. if gage is calibrated in millimeters.

2. Wipe secretions from tube opening with sterile gauze.
3. With Y-valve open, insert the catheter about 5 inches into the tracheotomy tube.
4. Apply suction by placing finger over the free arm of the Y-valve (fig. 5–85) while gently rotating and withdrawing the catheter. If the catheter "grabs," remove the finger from the Y-valve.

CAUTION

Do not push the catheter up and down.
Do not pinch the tubing.

5. Flush the catheter on withdrawal.
6. Wipe secretions around tube opening after suctioning is completed.

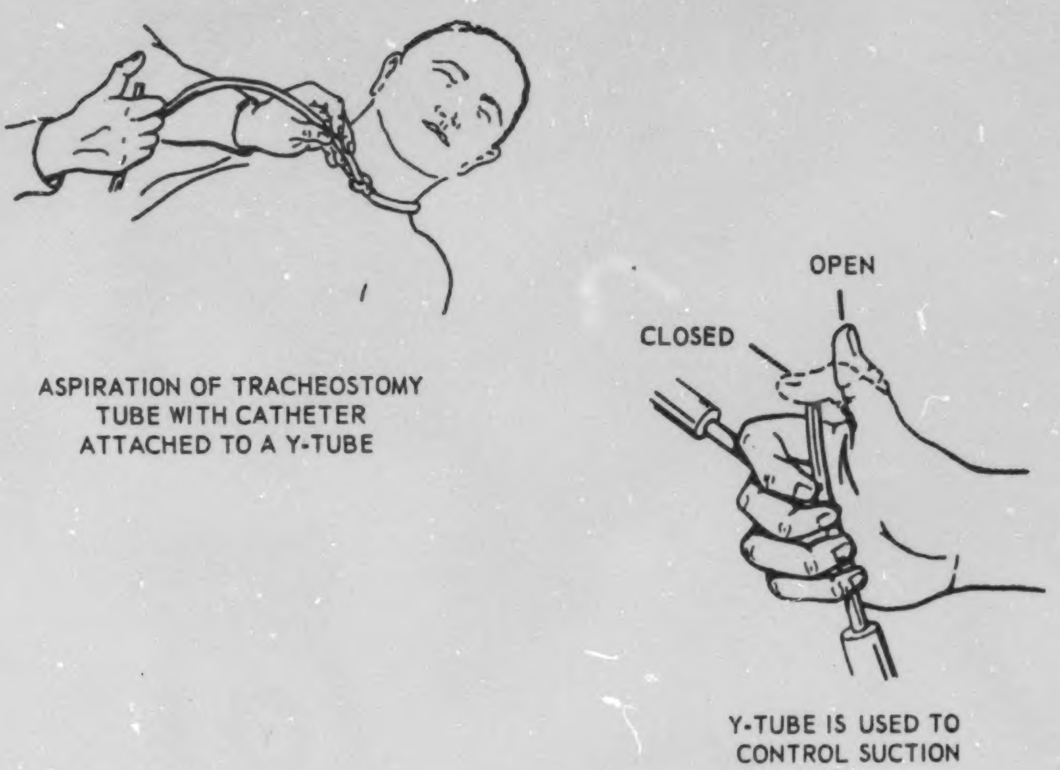
Care of Tracheotomy Inner Tube

The outer tube is removed and changed only by the physician. The inner tube is removed and cleaned by the medical specialist as often as necessary until the secretions subside; then it is cleaned at least twice daily.

1. Release inner tube by holding outer tube in place with index finger of one hand while turning lock at the top of the outer tube with the other hand.
2. Hold outer tube in place and remove inner tube, using outward and downward movement in conformity with the curve. Handle the inner tube carefully to prevent any dents.
3. Place inner tube in basin containing cleaner solution. (If hydrogen peroxide is used, use half and half with water; if a surgical cleaner is used, follow directions on container.)
4. Soak for a few minutes to loosen mucus and other adherent secretions.
5. Using pipe cleaners or the test tube brush, cleanse the inner tube of the loosened secretions. Repeat mechanical cleaning until the tube is clean.

NOTE

Never use cotton-tipped applicators —the tip can be dislodged and ob-



ASPIRATION OF TRACHEOSTOMY TUBE WITH CATHETER ATTACHED TO A Y-TUBE

Y-TUBE IS USED TO CONTROL SUCTION

Figure 5–85. Y-valve suction technique.

struct the tube; gauze squares that ravel may leave a thread or particle of gauze within the tube and are also potentially hazardous; a nonraveling gauze bandage strip may be used if pipe cleaners or test tube brush are not available.

6. Rinse the cleaned tube by pouring sterile water through and over it. (An accepted alternate: rinse the tube under a sink faucet, using cool running water.) Drain and dry with a sterile towel.
7. When so ordered, sanitize inner tube by boiling for 10 minutes, using a small instrument sanitizer—not the utensil sanitizer.
8. Aspirate the outer tube before replacing the inner tube.
9. Lock the replaced inner tube in position.

Assisting With Change of Outer Tube

1. Assist the medical officer as needed.
2. At the bedside, have the dilator (or Kelly forceps) available for holding open the incision into the trachea if necessary; the replacement tube set with tapes attached. (Tapes are customarily placed on the tube in CMS before the set is autoclaved.)
3. When the new tube set has been inserted by the doctor, tape the new obturator to the head of the bed.
4. Return the previously used set, complete with its obturator, to CMS.

To Change the Tube Dressing

1. Use aseptic technique.
2. Change the dressing as often as necessary. (The initial dressing is usually done by the medical officer.)
3. Support the outer tube shield while removing the gauze dressing to avoid displacement of the tube. If the dressing is stuck to the skin, moisten it with sterile saline before removing it.
4. Cleanse the skin around the tube, using prescribed skin cleansing solution or sterile saline. Report any signs of inflammation and any evidence of leakage of oral fluids or foods about the tube opening.
5. Cut a slit in a 4- x 4-inch gauze square or a nonadherent absorbent strip, halfway through. Be sure to put tape over the cut edges of the gauze to prevent a small piece of thread from entering the air passage.

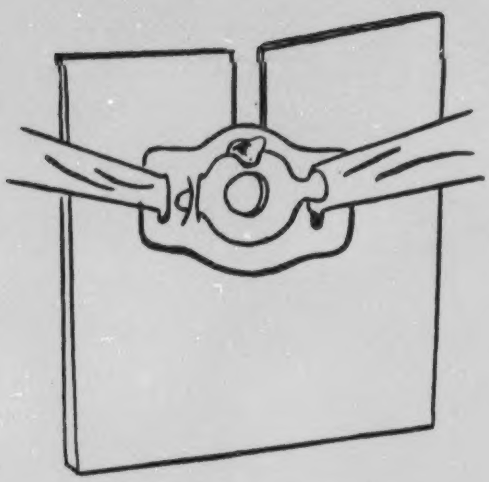


Figure 5-86. Tube dressing.

6. Using forceps, pull the slit dressing gently under the outer tube shield. Place the slit toward the chin. The uncut portion is below the tube to absorb secretions (fig. 5-86).
7. Check to make sure the dressing is secured underneath the shield. It must not slip out or occlude the airway. A strip of adhesive may be used on the upper edges to hold it in place p.r.n.
8. Check outer tube tape straps and replace them if soiled. While changing straps, ask the patient or an assistant to hold the outer tube in place until the straps are retied, as a cough could dislodge the unsecured outer tube. To replace tape ties—
    - a. Cut two 16-inch lengths of tape, using bandage scissors.
    - b. Cut a horizontal slit about 1 inch from one end of each tape.
    - c. Thread the slit end through side opening of the outer tube and draw the opposite end through the slit.
    - d. Tie tapes in a square knot at the side of the neck. Check to insure that they are tight enough to retain the tube but with no pressure.

Providing Humidity for the Tracheotomized Patient

Use one or more of the following measures, as prescribed by the medical officer, to moisten, warm, and filter the inhaled air. Mucus dries and forms plugs when the respiratory tract becomes dry; this dried mucus is hazardous and must be prevented from forming.

1. Place a 4- x 8-inch plain gauze compress to form a bib over a strip of tape, which is then tied around the patient's neck. Be sure to tie the bib tape in a bow on the side of the neck opposite to the square knot tape tie which secures the outer tube. Keep this bib, moistened with saline, over the tube opening.
2. Using a 2 ml. syringe or medicine dropper, instill 3 or 4 drops of sterile saline into the tracheotomy tube before suctioning. This instillation helps thin secretions for easier aspiration.
3. Administer nebulized mist, directed into the tracheotomy tube, by a nebulizer unit under air or oxygen pressure. A special apparatus is used for this treatment, so local instructions for its operation should be followed.
4. Use a steam vaporizer, directing the tube outlet upward toward the tracheotomy tube. Keep the patient from becoming damp or chilled from the steam, as chilling is conducive to respiratory infection. Protect the patient from drafts. Keep the windows and door in the room closed in order to help concentrate moisture from the steam.

Providing Oxygen Therapy

There are several methods of introducing oxygen into the tracheotomy tube. Four of these methods are listed below.

NOTE

> Whatever method is used the oxygen must be humidified, since oxygen is drying and will cause irritation. Administer at the rate prescribed by the doctor.

1. Use a commercial tracheotomy-oxygen device when it is available. This is a transparent plastic mask which fits over the tube.
2. Attach a small funnel to the oxygen tubing and place the funnel over the tube.
3. Use a bent-needle technique. Clip off the sharp bevel end of a 15-gage IV needle and bend the needle about halfway along the shaft. Attach the needle hub to the oxygen tubing. Insert the distal end of the needle into the tracheotomy tube, anchoring it with adhesive (fig. 5-87 Ⓐ).
4. Insert an oxygen nasal catheter about 1 inch into the tracheotomy tube, anchoring it with adhesive (fig. 5-87 Ⓑ). The catheter tends to obstruct the tube, and this method is, therefore, the least desirable of the methods to be used.

1248

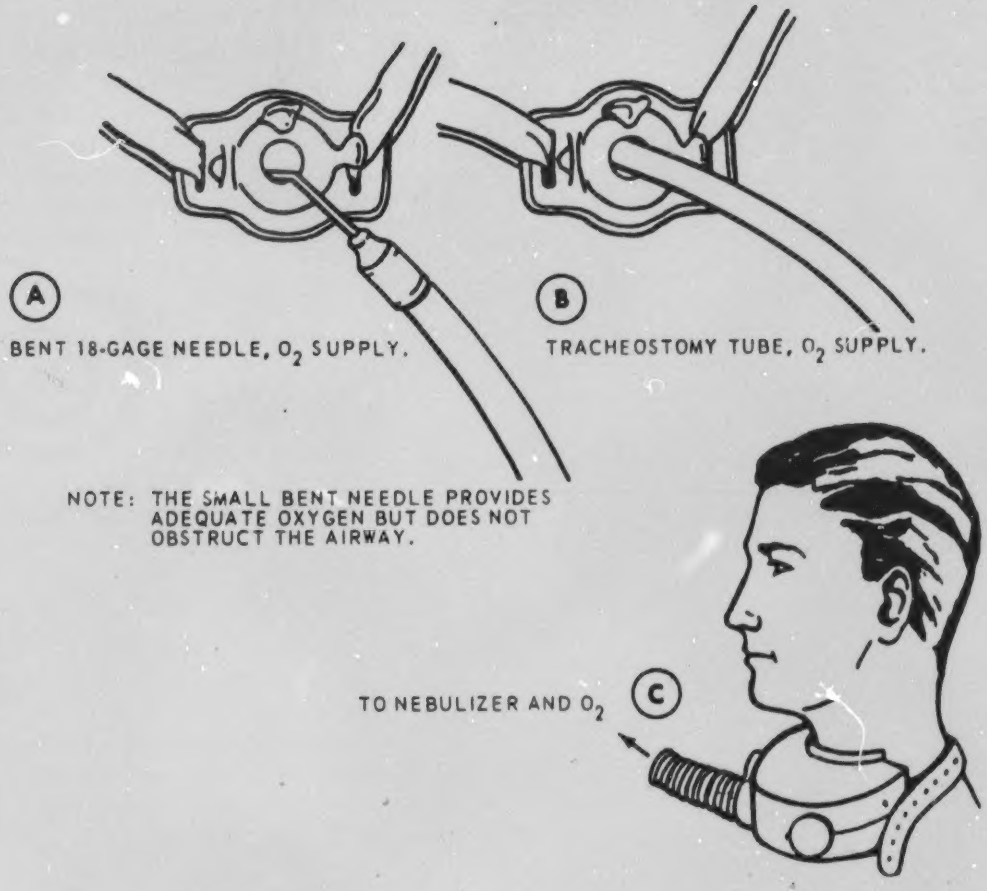

A
BENT 18-GAGE NEEDLE, O2 SUPPLY.
B
TRACHEOSTOMY TUBE, O2 SUPPLY.
NOTE: THE SMALL BENT NEEDLE PROVIDES ADEQUATE OXYGEN BUT DOES NOT OBSTRUCT THE AIRWAY.
TO NEBULIZER AND O2
C

Figure 5–87. Tracheotomy tube, administration of oxygen.

Assisting With Decannulation of Tracheotomy Tube

Decannulation (extubation) refers to the gradual elimination of the tube opening to permit the patient to return to normal breathing through his nasopharyngeal passage. The doctor orders the type of tube obstruction to be used and the interval and length of time it is to be left in place. Small corks or rubber stoppers, with wedge-cuts of varying sizes, are usually used. Following removal of the tube, the skin edges are approximated to permit healing of the incision. During the decannulation process—

1. Continue close observation for any signs of respiratory distress.
2. Be particularly observant of tolerance of the closure when the patient is asleep. Before the tube is removed, the patient should be able to breathe normally, with tube completely closed off, day and night.

5–111. Thoracentesis

Thoracentesis (chest tap) is the surgical puncture of the chest wall, to withdraw fluid or air from the pleural cavity for diagnostic and therapeutic purposes. A thoracotomy needle is inserted by the doctor through the intercostal (between ribs) area into the pleural cavity. Suction is then applied by syringe to aspirate the accumulated fluid or air. The procedure is usually done at the patient's bedside.

EQUIPMENT

Thoracentesis tray, sterile, from CMS
Drainage bottle, calibrated from CMS
Gloves, sterile
Compresses, 4- by 4-inch, sterile
Skin germicide, as prescribed
Local anesthetic, as prescribed
Emergency drug stimulant tray
Alcohol sponge container
Transfer forceps

1261

Emesis basin
Tape, adhesive
Specimen labels
Water glass, empty (for specimen tubes)
Mobile table or Mayo stand

PREPARATION FOR THE PROCEDURE

1. Check Clinical Record for signed SF 522 (Authorization for Administration of Anesthesia and for Performance of Operations and Other Procedures).
2. Prepare the patient and reassure him with appropriate explanations. Assure him that the doctor and you, as assistant, will help him to maintain the required position and to avoid moving and coughing during the procedure.
3. Take and record TPR and BP.
4. Screen the patient. Remove pajama jacket to expose chest. The site of the puncture will depend upon the location of the fluid or air which is to be aspirated.
5. Position the patient as directed by the medical officer. The position may be either one of the following:
    - a. Seated on the side of the bed facing away from the operator, with feet supported on a chair and the head and arms resting on an overbed table padded with pillows. The arms are elevated slightly to widen the intercostal spaces.
    - b. Place in a semirecumbent position, facing away from the operator, resting on the nonaffected side, with the head of the bed elevated about 45 degrees. A pillow is placed under the chest to widen the intercostal spaces. The arm of the affected side is placed above the head to elevate the ribs, thereby making the insertion of the needle easier.

ASSISTING WITH THORACENTESIS PROCEDURE

1. Place thoracentesis tray on instrument table. Open sterile wrapper cover to provide a sterile field.
2. Place other supplies on adjacent bedside stand or overbed table. Open glove wrapper.
3. Pour germicide solution as required—this may be over a gauze sponge the doctor holds over the emesis basin, or into a sterile container on the tray.
4. Assist with handling of local anesthetic vial. Hold vial with label uppermost so that the medical officer can personally check the label before withdrawing any of the solution. Cleanse stopper with alcohol sponge. Invert vial and hold firmly while the doctor with gloved hands withdraws the required solution.
5. Assist as directed with securing sterile drapes.
6. As instructed by the doctor, support and help patient to avoid moving and coughing while the thoracentesis needle is introduced.
7. Assist as directed with collection of specimens as the doctor manipulates the syringe, the stop cock, and drainage tubing. Use transfer forceps in removing specimen tubes from sterile field. Use care not to contaminate the end of the tubing, the cap, and open end of the specimen tubes. Cap the tubes and place them upright in a clean glass provided for this purpose. Label each tube as directed by the doctor.
8. If drainage of a large amount of accumulated fluid is necessary, assist the doctor by placing the free end of the tubing in the drainage bottle.
9. Watch the patient's color; check pulse and respiration. Report any sudden change stat. as this may indicate damage to the visceral pleura from a nick or puncture by the needle.
10. Assist with application of dressing.
11. Position patient comfortably (usually Fowler's position).
12. Remove equipment from bedside to utility room. Return emergency tray to proper place.
13. Complete entries on appropriate laboratory request forms (SF 514–M, Miscellaneous) as directed.
14. Send properly labeled specimens with completed request forms to laboratory immediately.
15. Measure and record amount of fluid withdrawn and discard this fluid in hopper or utility room unless directed otherwise.
16. Care for equipment properly—discard disposables, place all linen in hamper, and return appropriate items to CMS.
17. Continue to observe patient for respiratory difficulty: any blood in sputum, persistent cough, or dyspnea. Take and record vital signs q. 4 h., or as ordered.
18. Enter this information on Nursing Notes: date and time, procedure, by whom performed, amount and type of fluid withdrawn, patient's reactions, and specimens sent to laboratory.

5-112. Underwater-Seal Chest Drainage

Underwater-seal chest drainage is a closed (airtight) system for drainage of air and fluid from the chest cavity. It is a postoperative treatment measure following chest surgery and may also be used as an essential part of the initial medical management, under field medical conditions, of a patient with an open chest wound (if the problem of immediate transportation for evacuation is not involved). The care and observation of the underwater-seal drainage apparatus is an important nursing responsibility in addition to all other patient care measures during the immediate and early phases of postoperative care.

a. Explanation of the Procedure. The underwater-seal system is established by connecting a catheter which has been placed in the patient's pleural cavity to drainage tubing which drains underwater in a sealed drainage bottle. As the patient exhales, air and fluid in the pleural cavity are pushed through the catheter and drainage tubing. By keeping the end of the drainage tubing under water, air is prevented from re-entering the tube; by keeping the drainage bottle at floor level, fluid is prevented from siphoning back. As air and fluid are drained and prevented from reentering the pleural cavity pressure on the lungs is relieved, and re-expansion of a collapsed lung is facilitated.

CAUTION

> The catheter is clamped off by the medical officer at the time of its initial placement, and the catheter remains clamped until—

(1) The water-seal setup has been checked by the medical officer.

(2) The chest catheter connection to the drainage tubing has been checked by the medical officer.

(3) All connections are determined to be airtight.

b. Water-Seal Methods Used. The surgeon will specify the drainage setup he prefers to use. It is advisable to have CMS personnel obtain the required component parts, preassemble them to insure precise fitting, and process them to insure sterility. This type of preparation minimizes handling at point of use and promotes maintenance of asepsis.

(1) *Drainage without suction (1-bottle method).* Drainage without suction assistance is usually accomplished by means of a single underwater-seal bottle setup (fig. 5-88 Ⓐ). With this setup, the tube leading to the patient's catheter is connected to the long glass tube. The end of the long glass tube is submerged for a measured distance under sterile water. The long glass tube is the waterseal. The short glass tube is the air vent, through which air escapes to the atmosphere.

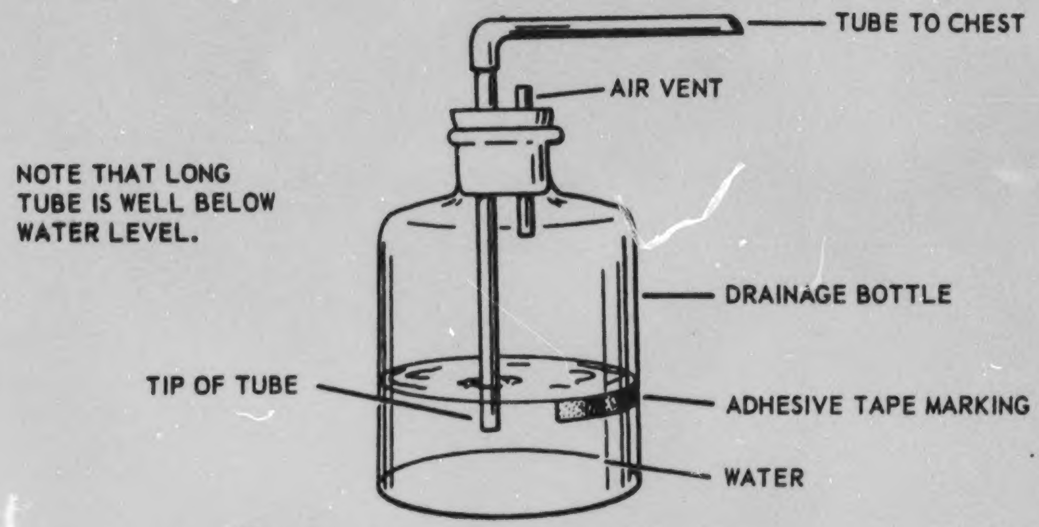
(2) *Drainage without suction (2-bottle method).* Drainage without suction using a 2-bottle method is illustrated in fig. 5-88 Ⓑ. This setup is used to prevent chest fluid from draining into the underwater-seal bottle. An airtight seal between the two bottles allows fluid to accumulate in the trap bottle (bottle 1) while air passes into the water-seal bottle (bottle 2) and escapes through the air vent. There is less hazard of possible ascending bacterial infection when the tubing leading to the patient's chest is not directly connected to the underwater seal. However, there are increased hazards from loose or improperly made connections to the water seal; this could lead to collapse of the lung.

(3) *Drainage with suction assistance (thermotic pump).* Drainage with suction assistance is used when water-seal drainage alone does not eliminate free air from the pleural cavity in sufficient quantities to permit lung expansion. Suction is usually provided by means of the thermotic pump (GOMCO, fig. 5-89) or an Emerson postoperative pump (fig. 5-90). This is a nonstandard item that is, however, used extensively in AMEDD hospitals. The thermotic thoracic pump is designed to provide automatic suction at a predetermined suction pressure. The doctor determines the amount of suction to be used by: (a) adjusting the water level in the manometer (bubble tube), and (b) by ordering the apparatus switch set on high or low. (Refer to the manufacturer's instruction manual and the local procedure manual for operating instructions.)

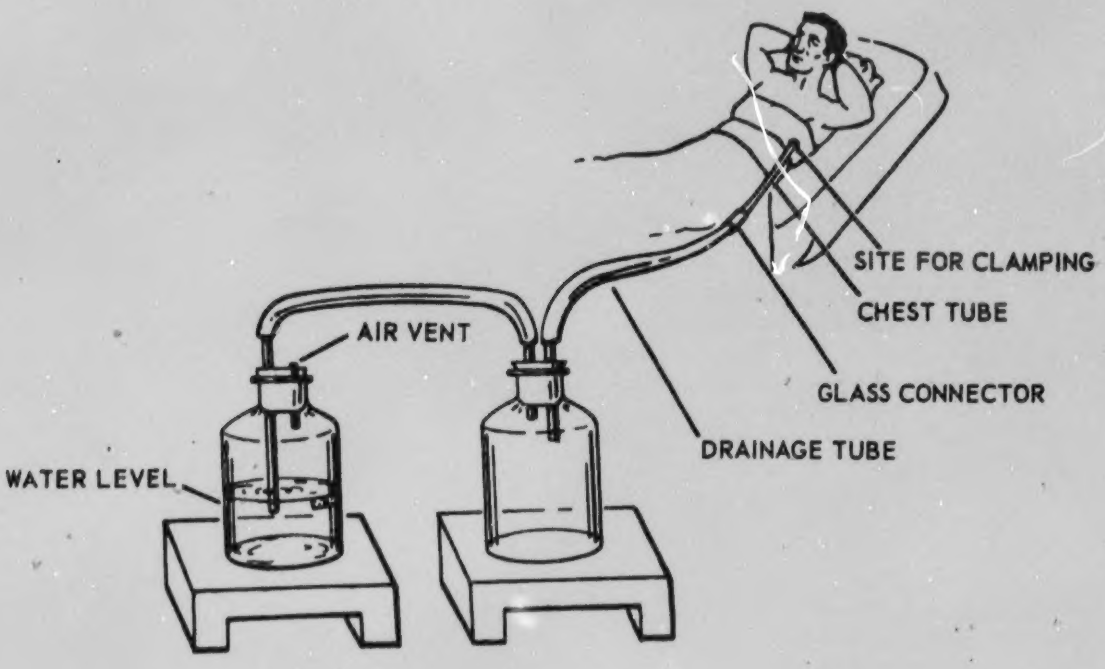
5-113. Underwater-Seal Drainage (One-Bottle Method)

(fig. 5-88 Ⓐ)

The underwater-seal drainage system using the one-bottle method is the system most commonly used when suction assistance is not required. The component parts, assembled in accordance with the instructions of the medical officer, are obtained from CMS. All adjustments and connection made at the bedside are made by the medical officer or are made by the nurse or medical specialist under the direction and supervision of the


TUBE TO CHEST
AIR VENT
NOTE THAT LONG TUBE IS WELL BELOW WATER LEVEL.
DRAINAGE BOTTLE
TIP OF TUBE
ADHESIVE TAPE MARKING
WATER

Ⓐ WATER-SEAL DRAINAGE APPARATUS


SITE FOR CLAMPING
CHEST TUBE
AIR VENT
GLASS CONNECTOR
DRAINAGE TUBE
WATER LEVEL

Ⓑ THORACIC WATER-SEALED DRAINAGE BY GRAVITY.

Figure 5-88. Water-seal chest drainage without suction.

medical officer. Aseptic technique must be maintained in preparing and handling the equipment.

EQUIPMENT

Drainage bottle set, sterile
Drainage tubing, with connector, sterile
Clamps, Kelly, rubber-shod, 2
Adhesive tape, 3-inch roll
Drainage bottle floor holder
Flask of sterile water
Pencil or marking pen
Safety pins

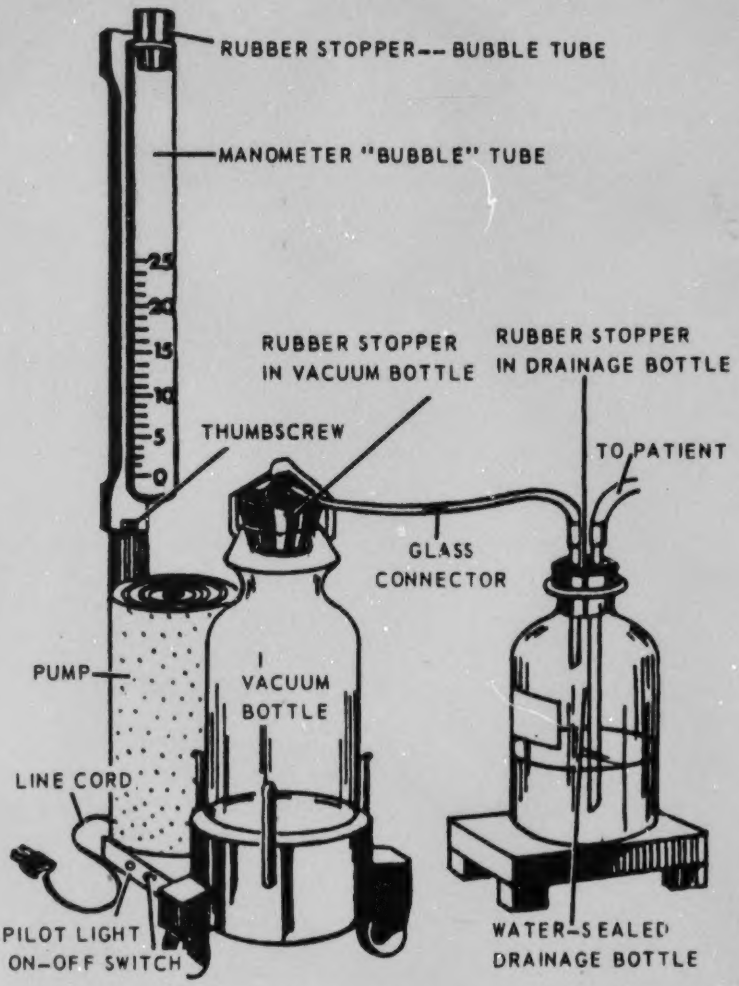

RUBBER STOPPER—BUBBLE TUBE
MANOMETER "BUBBLE" TUBE
25
20
15
10
5
0
RUBBER STOPPER IN VACUUM BOTTLE
RUBBER STOPPER IN DRAINAGE BOTTLE
THUMBSCREW
TO PATIENT
GLASS CONNECTOR
PUMP
VACUUM BOTTLE
LINE CORD
PILOT LIGHT
ON-OFF SWITCH
WATER-SEALED DRAINAGE BOTTLE

Figure 5–89. Water-seal drainage (GOMCO suction pump).

Preparation of Equipment at the Bedside

1. Make sure the long glass tube extends into the water to the depth specified by the medical officer. The initial depth is usually 2 ml. (approximately one inch), or just far enough for the end to remain submerged when water fluctuates in the glass tube as the patient breathes or coughs. The farther the tube extends into the water, the greater the intrapleural pressure must be to expel air and fluid into the drainage bottle.

NOTE

When received from CMS, the set is usually preassembled, with the stopper inserted and covered by a sterile paper cap. If sterile water has been already placed in the bottle, the amount in ml. or cc. should be indicated on the bottle so that the total amount of subsequent fluid drainage can be measured.

2. Tape the stopper securely to the neck of the bottle.
3. Place a strip of tape vertically on the bottle, from bottom to top. With pencil, mark on the tape the original fluid level in the bottle. Subsequent readings at the periodic intervals ordered by the doctor will also be marked on this tape strip.
4. Print "DO NOT LIFT" on a second strip of tape and stick this on the shoulder of the bottle so that it is visible from above.
5. Fold a strip of 3-inch adhesive to make a tab. Stick this tab on the head of the bedframe and secure the rubber-shod Kelly clamps to the tab

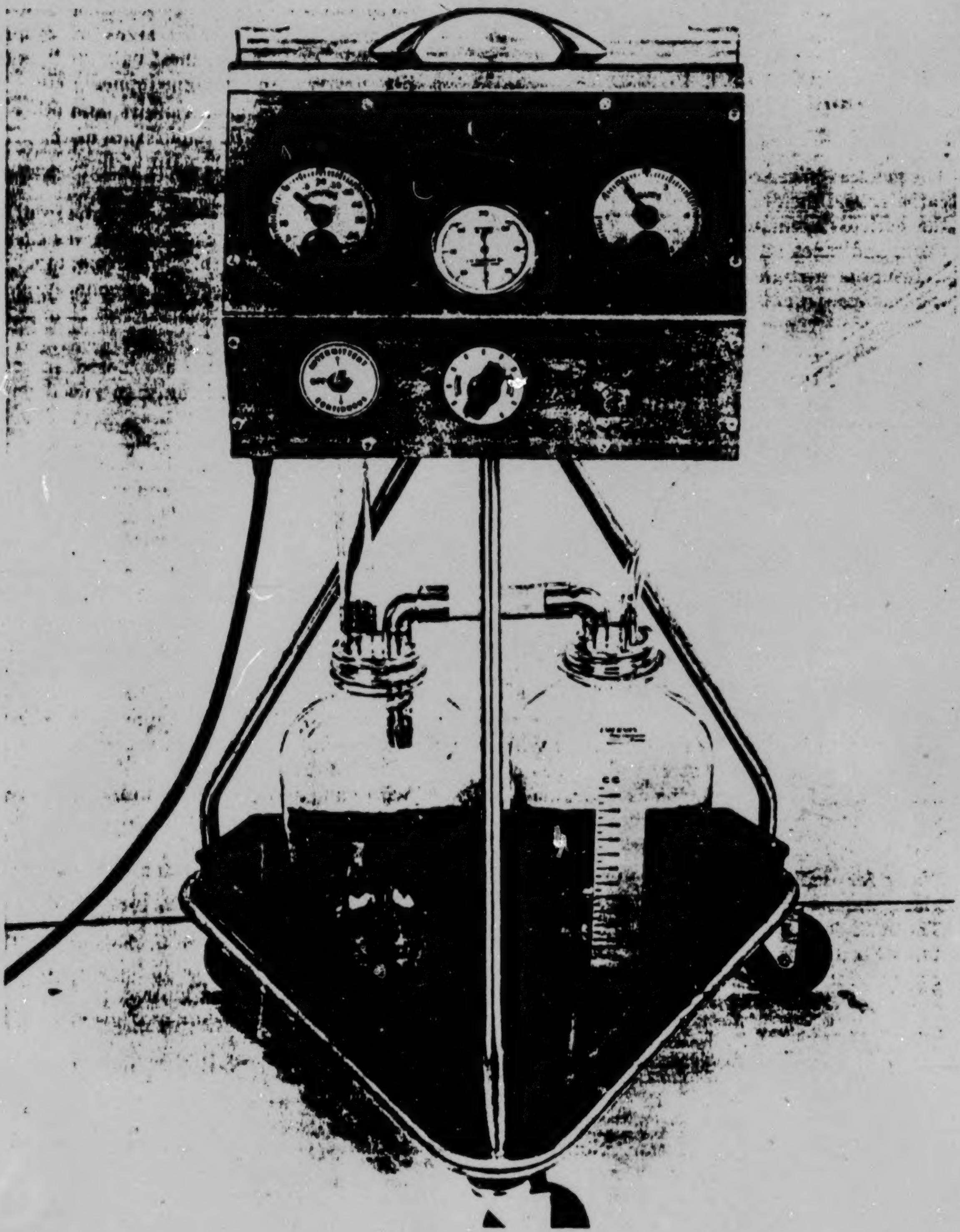


Figure 5-90. Emerson postoperative pump.

for immediate availability in clamping the patient's chest catheter in case of emergency.

6. Place the drainage bottle holder on the floor.

ESTABLISHMENT OF DRAINAGE FROM THE PATIENT

NOTE

> The medical officer connects the patient's catheter and the drainage tubing, checks the entire system to verify all connections, and tapes all catheter connections to insure an airtight system. He removes the clamps from the chest tube after checking all connections. These clamps are never released until the system is airtight and ready to function. Then he adjusts the drainage tubing to eliminate any loops or kinks and specifies the proper location of the drainage bottle on the floor.

After this has been done, your duties are as follows:

1. Fasten the holder to the floor with adhesive and fasten the bottle to the holder with adhesive. (If no holder is available, fasten the bottle to the floor with adhesive.) This securing of the bottle is a precaution to avoid tilting, lifting, or inadvertent kicking over of the bottle.
2. Watch for fluid drainage in the connector tube between the patient's catheter and the drainage tubing. There should be free drainage, unobstructed by kinks, compression of the tube, or clotting of the fluid.
3. Watch for oscillation (fluctuation) in the long, glass, water-seal tube in the drainage bottle. The fluid level in this tube should rise and fall with the patient's inhalation and exhalation; on inhalation the fluid rises in the tube and on exhalation the fluid falls, and bubbles appear in the bottle fluid. This oscillation and appearance of bubbles ceases when the catheter or drainage tube becomes blocked; there is a leak in the system; or the lung has expanded, and fluid and air are no longer being expelled through the catheter. Notify the doctor or nurse at once should oscillation or bubbling cease, so that the reason can be determined and the necessary action taken. Permissible action for you to take without further instruction from the nurse or doctor is to check to see that the catheter or drainage tubing is not kinked or pinched off in any way and that all connections are apparently airtight.
4. Observe the patient for signs of dyspnea, cyanosis, rapid pulse, chest pain, and profuse perspiration. Report signs immediately.
5. Instruct all personnel, visitors, and other patients regarding the importance of the drainage bottle. It must remain at floor level and in its original location.
6. If any part of the system is impaired, immediately clamp the chest catheter as close to the chest wall as possible. Impairment includes such things as air leak, loose connection and raised drainage bottle. Use two clamps, one distal to the other.
7. Take fluid level readings as ordered, and mark the level, date, and hour with pencil on the vertical tape strip.

NOTE

> It is necessary to kneel and observe the fluid level at floor level. Never clamp the tube and lift the bottle unnecessarily.

8. Continue all required postoperative care measures. Encourage the patient to deep-breathe and to cough as ordered and as instructed. The chest catheter is painful, and the patient needs maximum assistance and encouragement. Sit the patient upright with the aid of a pull-rope and have him lean forward slightly during the cough procedure for more effective drainage. Support the chest incision with hand and towel pressure, using care not to compress or otherwise interfere with the catheter.
9. Check fastening of drainage tubing to the foundation bedsheet to avoid loops and kinks. Support the tubing by pinching up and pinning a bridge or trough in the sheet, with no compression on the tubing from the safety pin. Be sure that the glass connector is visible at all times to observe gravity flow of drainage.
10. In turning the patient to the affected side, support the chest catheter in a trough formed by two folded bath towels to prevent body weight from compressing the catheter.

Changing Drainage Bottles

This is usually done by the doctor but may be done by the medical specialist when so ordered by the doctor.

1. Clamp the chest tube, using 2 clamps, before disconnecting any of the drainage apparatus.

2. Have a sterile bottle set up in readiness for immediate exchange.
3. Maintain sterility of connections.
4. Disconnect drainage tubing from the long glass insert in the used-bottle stopper.
5. Reconnect drainage tubing to the long glass insert in new bottle stopper.
6. Tape connection to insure airtight seal.
7. Check water level to insure that end of glass tube is submerged the required distance. Check to see that measured amount of water is recorded on the tape strip.
8. Tape stopper to bottle neck.
9. Release chest catheter clamps after insuring all connections are airtight. Secure clamps to head of bed.
10. Observe drainage in glass connector from chest catheter immediately after releasing clamps. It should be re-established without delay. Watch for fluctuation in the long glass tube.

Care of Used Equipment

1. Measure and record amount, color, and time interval of drainage. Subtract measured water from total to obtain fluid drainage total.
2. Remove all tape from the used-bottle stopper, glass tubing, and bottle surface. Use acetone or ether to remove sticky residue. Handle carefully to avoid breakage. Do not attempt to remove glass inserts from the bottle stopper.
3. Rinse bottle, stopper, and glass inserts in cold running water. Return all parts to CMS, protecting glass inserts by wrapping in towels to prevent breakage.

Recording

1. Enter in the Clinical Record, on DD Form 640, (Nursing Notes), the following information:
   a. Date and time of change of drainage bottle.
   b. Amount, color, and type of fluid (for example: sero-sanguinous (pinkish or light red), dark red, yellowish).
   c. Person who changed drainage bottle.
   d. Statement as to whether or not specimen was sent to laboratory.
2. Enter on DD Form 792 (Nursing Service—Twenty-Four Hour Patient Intake and Output Worksheet) the amount of measured drainage. This amount is the difference between the initial measured water and the amount in the bottle when the bottle is replaced.

Section XI. NURSING CARE OF THE ORTHOPEDIC PATIENT

5–114. Introduction

Orthopedics is the medical specialty that includes the investigation, preservation, restoration, and development of the form and function of the limbs, spine, and associated structures by medical, surgical, and physical means. The basis of orthopedic nursing is understanding and applying the principles of body mechanics (sec. III). While the application of these principles is a basic requirement in all nursing care, additional emphasis is needed when working with orthopedic patients. The challenge in caring for the orthopedic patient is in devising ways to carry out basic nursing care while understanding and working with orthopedic mechanical devices, such as splints, casts, traction devices, and turning frames, that are used in treating and aiding the healing process of bone fractures, joint disorders, muscle and nerve injuries, and other affections of the musculoskeletal system. Usually, the injured part and associated structures must be immobilized, while at the same time circulation must be maintained and muscles used to prevent atrophy. The average orthopedic patient is a long-term patient, whether undergoing treatment in the hospital or on an outpatient basis. Following a period of intensive treatment, he must undergo a long period of supervised convalescence to insure optimum recovery. He can be expected to resent the necessary restrictions imposed upon him and to become impatient or discouraged. Therefore, every patient must be taught and encouraged to become as self-reliant as possible, while at the same time he must understand the limits ordered by the doctor to insure healing and regaining of function.

5–115. Common Orthopedic Conditions

a. Under both peacetime and combat conditions, orthopedic patients account for a high percentage of occupied hospital beds and outpatient clinic visits. Usually the greatest number of patients will be under treatment for fractures due to trauma. The medical specialist is likely to encounter orthopedic conditions caused by—

(1) *Trauma.* Fractures, dislocations, sprains, and strains. In addition to injury to bones and joints, there are complicating factors of injury to

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muscles, tendons, blood vessels and nerves, and often large open wounds are involved.

(2) *Disease.* Arthritis, osteomyelitis, neoplasms (both benign and malignant), and tuberculosis.

(3) *Congenital deformities.* Congenital dislocation of the hip and talipes (clubfoot). The medical specialist will usually encounter these conditions on the pediatric service (ch. 10).

(4) *Development defects.* Foot ailments such as flatfoot and bunions and spinal deformities due to abnormal or exaggerated spinal curvatures such as kyphosis and scoliosis.

(5) *Post-disease or post-trauma paralysis.* Residual paralysis from disease or from trauma of the extremities or trauma that damaged the spinal cord. Residual muscle paralysis from a disease such as poliomyelitis (infantile paralysis) may be treated surgically on the orthopedic service, or the orthopedic surgeon may refer the patient to the orthopedic brace shop. At other times, surgery and bracing will both be used. Other types of paralysis may be similarly treated. The medical specialist will find that, in AMEDD facilities, injury to the central nervous system is usually treated on the neurosurgical service; however, some conditions are also treated on the orthopedic service.

b. TM 8-231 gives additional information on these and other orthopedic conditions.

c. For emergency treatment of fractures, refer to FM 21-11 and chapter 8, this manual.

5-116. Healing of Fractures

a. When a bone breaks, there is always an injury to the periosteum (the membrane that covers the bone) and to the surrounding tissues. There is also hemorrhage about the ends of the fragments, and the space between the two fragments rapidly becomes filled with a blood clot. This blood clot is invaded by cells which form granulation tissue; this then forms a union of fibrous tissue known as a soft callus between the ends of the bone. Next, bone-forming cells begin growing in from the periosteum. (If the periosteum has been torn away or killed, these cells are not present.) They gradually form the soft callus into a hard callus, making a firm bony union between the broken ends of the bone. In treatment of fractures, the bones are brought into proper alinement and immobilized until X-ray shows that a hard callus has been formed.

b. Many conditions can interfere with the proper healing of a fracture; *for example—*

(1) *Poor blood supply.* If one of the parts of the broken bone is not supplied by blood, that part may die and union will not take place. This is prone to occur in the neck of the femur, the patella, the elbow end of the radius, and several other places where circulation is poor.

(2) *Poor immobilization.* If the fracture is not properly splinted and motion continually takes place at the site of fracture, the bony union will not take place.

(3) *Infection.* If the fracture site becomes and remains infected, union will not take place. There is a great danger of this occurring in open fractures because infection takes place through the open wound.

NOTE

Dressing technique on an orthopedic ward must be faultless to prevent wound and bone infection. In addition to strict asepsis for ALL patients, it is customary to place patients with infected wounds in a ward separate from one in which there are patients with clean wounds.

(4) *Interposition of soft parts.* If a piece of muscle or other tissue gets between the ends of the broken bone, bony union cannot take place.

(5) *Dietary deficiency.* If the diet of the patient does not include enough calcium or other minerals, new bone cannot be formed.

(6) *Pathological fractures.* These are fractures due to a disease process which causes a gradual weakening within the bone. Parathyroid disease (hyperparathyroidism), syphilis (when untreated or inadequately treated), bone tumors, and other diseases can weaken a bone so that only slight stress is needed to fracture it, and the disease of the bone may impede or prevent union.

5-117. General Nursing Care for All Orthopedic Patients

a. Skin Care. Besides basic hygiene measures, the orthopedic patient needs special skin care. Since he is often confined to his bed and in many cases is immobile because of a cast or traction, he is particularly susceptible to bed sores. Change the patient's position within permissible limits each 2 to 4 hours; give frequent alcohol (or skin lotion) rubs; and if rubber rings, sponges, or pads are used, use them cautiously, making sure that new areas of circumscribed pressure are not being

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created and that there is a redistribution of body weight with relief of pressure area. Remember skin care includes attention to hair (brushing and shampoos) and toe and finger nails. Always provide a clean, smooth, dry bed, with wrinkle-free foundation sheets and bed clothing. Use orthopedic pajamas which are generously proportioned, with seams held closed by snap fasteners for ease in putting on and removing over casted areas. Patients in traction do not wear pajamas over the particular area in traction.

b. Diet. At first the orthopedic patient may have little or no appetite. He must often be fed while flat on his back or with both hands and arms immobilized. He must not be hurried and his meals should be as pleasant and as much of a social occasion as can be managed. The diet is ordered by the doctor, but it is a nursing responsibility to do everything possible to insure the patient's acceptance of it.

c. Elimination. A special effort must be made to prevent constipation and urinary complications when a patient is immobilized. Diet, fluid intake, prescribed exercises, and prompt attention to the patient's request for a urinal or bedpan are all important preventive measures. Special attention must be paid to proper placement of the urinal and the bedpan while maintaining the patient in alinement. The patient must often be assisted in cleansing himself after elimination, as casts and other orthopedic devices must be protected from becoming wet and soiled. A patient on crutches or up in a wheelchair who is permitted weight bearing on one leg can often be self-sufficient in getting himself on and off a toilet if provision has been made for grab bars and wide doors on toilet cubicles and the patient has been shown how to transfer himself safely to and from the commode.

d. Maintaining the Patient's Morale. Because of his long hospitalization, his immobility, and his fear of deformity, he may become unduly depressed or discouraged. Your understanding and encouragement can do much to support his morale. Encourage him to do as much for himself as possible. Give him help willingly when he asks for it, and use each occasion as an opportunity to teach him to be more self-reliant. In fostering self-reliance, ward personnel must be extremely safety conscious. Floors should be kept clean, clear of all obstacles, and nonslippery. The patient's bedside unit should be arranged in as orderly a manner as possible but always so that it is safe and usable for the patient and personnel. Occupational therapists and physical therapists help the patient to restore and strengthen muscle function, and he may have therapeutic exercise and diversional equipment at his bedside. The recreational and social services of the American Red Cross are important elements also in his social and personal life. Nursing personnel must be aware of all the different activities that contribute to total care of the orthopedic patient.

5-118. Devices Used in Caring for the Orthopedic Patient

a. General. New orthopedic devices are constantly being put into use, but all of them are directed toward a two-fold aim: to provide support for the injured part until it heals and to prevent deformity and stiffness of the injured muscles and joints. Support for the injured part may be provided by bandages; adhesive strapping; splints, including plastic inflatable ones; or plaster casts applied externally. Support may also be applied internally to a bone by using pins or plates. To prevent stiffness, the patient must use the affected part as much as possible within the limits ordered by the doctor. Physical therapy is usually begun as soon as possible and may be continued for an extended period of time following the healing of the affected part. The patient often needs the support of braces, splints, or crutches for some time after he becomes ambulatory.

b. Basic Ward Equipment.

(1) *Orthopedic bed.* The basic orthopedic bed is the standard hospital bed with a firm, nonsagging mattress. A slatted orthopedic bedboard (fracture board), placed between the spring and a thin firm, hair (or foam rubber) mattress may be ordered by the medical officer to replace the usual hospital innerspring mattress. The slatted construction of the bedboard permits adjustment of the bed gatch and also permits rolling of the bedboard for storage. Longitudinal boards, placed so as to rest on the end rails of the bedframe (not on the springs), may also be used.

(2) *Overhead bedframe.* The Balkan-type frame is illustrated in figure 5-91. Upright poles are clamped to the four corners of the bedframe, and the overhead, head, and foot bars and clamps are then adjusted to accommodate any traction and suspension system required. Unless otherwise ordered, the Balkan frame is provided for all traction patients. Any adjustment of the frame is usually done by the doctor or orthopedic specialist (MOS 91H).

(3) *Trapeze.* The trapeze (fig. 5-91) is provided when the patient is permitted to lift himself

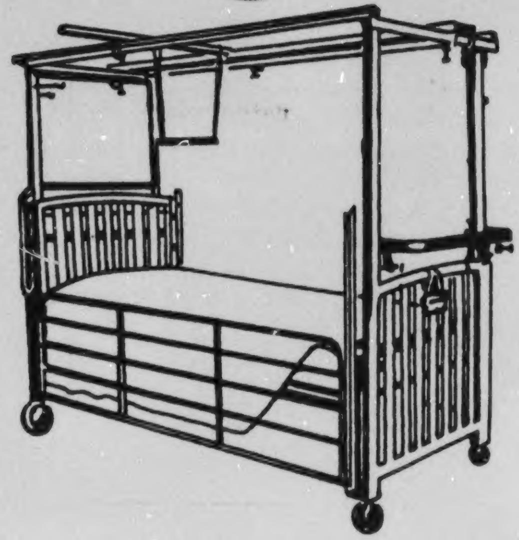

Figure 5-91. The orthopedic bed set up with Balkan frame.

in bed. When a trapeze is used, instruct the patient how to use it. Proper use protects the elbows and heels from pressure and from friction burns caused by the bedsheet; it also maintains body alinement. The patient should not drag the weight of his body on the bed nor twist his spine. He should:

(*a*) Grasp the bar firmly.

(*b*) Flex the knee of the unaffected leg and place the foot flat on the mattress.

(*c*) Push down on the bed with the foot and pull straight up on the trapeze.

(4) *Wheelchair.* Several special precautions must be observed when orthopedic patients are permitted to use a wheelchair (fig. 5-92).

- If a patient is to ambulate when out of bed, he is not allowed to use a wheelchair.
- If a patient is allowed to propel himself in the chair he must be cautioned not to use the chair as a racing vehicle. Young, energetic patients often are tempted to use their chairs in a manner hazardous to themselves and to everyone else.
- When any patient gets in or out, the chair must be well stabilized so that it will not roll when the patient shifts weight or changes position. A fall will injure the patient physically and will also damage his self-confidence and self-esteem. The braking device, if any, is set, and the wheelchair braced against a wall or stable piece of furniture, or someone holds the chair for the patient. The method of getting into and out of a chair will depend upon the type of chair and the patient's disability.
- Adjustable chair. A patient in a large, bulky body cast that does not permit any bending at waist or hip may be lifted into an adjustable chair that has been prepared with pillows to support him in a semirecumbent position. This move from bed to chair provides welcome diversion from prolonged confinement to bed. The chair itself must be in perfect mechanical condition and the back and leg rests must be securely locked, once the rests are adjusted to conform to the patient's needs.
- Folding chair. The folding wheelchair is most commonly used for a patient who can sit up-

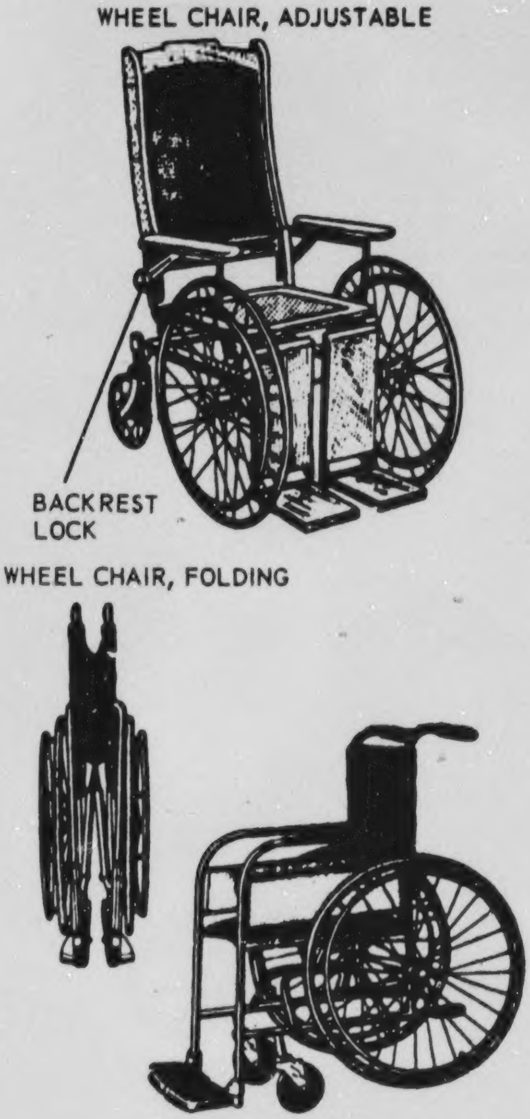

Figure 5-92. Wheelchairs.

right. If leg elevation is required, a board may be anchored under the seat cushion and pillow supports provided. In seating himself or getting out of the chair, the patient must be cautioned to fold back the footrests (if he attempts to stand on one, the chair will tip over); to support himself on the armrests as he lowers himself into the chair or pushes himself out of the chair; and in lifting himself from the chair, to place the leg on which weight bearing is permitted with the foot flat on the floor and slightly under the chair seat—he is then in position to push upright with his quadriceps (thigh) muscles and shoulder and arm muscles.

5–119. Assisting With Care of the Patient in a Cast

a. General. Casts are applied to maintain a part of the body in a fixed position. They are used in the treatment of fractures to immobilize and hold bone fragments in position for healing, to prevent movement in soft-tissue injuries, and to correct and maintain proper alinement in the treatment of deformities. The cast is usually applied by the medical officer and the orthopedic specialist, who works under the supervision and direction of the medical officer. In special situations, in the absence of an orthopedic specialist, the medical specialist may be required to assist the medical officer in the application of the cast; for example, in a dispensary, an outpatient may require application of a standard arm cast or a leg cast. Should this occasion arise, the medical specialist will follow the physician's orders; he will never attempt to apply or alter a cast except under the direct supervision of the physician. In preparation for this type of assistance, he should refer to TM 8–231. In addition, he should visit a hospital cast room and be oriented to basic cast equipment and cast application techniques by an experienced orthopedic specialist.

b. Care of the Patient in a Cast. It is a nursing responsibility to care for the patient while preserving the efficiency of the cast. (The efficiency of the cast is its ability to maintain the position for which it has been applied over the period of time necessary to accomplish the doctor's purpose.)

(1) Handle a wet cast carefully. A newly applied cast is set and firm when the patient leaves the cast room, but the cast is still damp. It requires 24 to 48 hours to become dry and hard.

(*a*) Prepare the bed to receive the patient. If the patient has been anesthetized, complete the foundation as for the postoperative bed.

(*b*) Provide plastic-protected pillows to support the cast along its entire length. Never permit the wet cast to rest directly on a flat, firm surface, because this will flatten the molded contours of the cast and cause pressure within the cast.

(*c*) Handle the damp cast by lifting and supporting it on a pillow or on the palms of the hands. Avoid using the fingers, as they will leave indentations which cause pressure within the cast.

(*d*) Never cover a damp cast. Leave it exposed to free air circulation. This is essential, as a drying cast generates heat within the plaster itself. In hot and humid weather the patient can suffer from excessive heat build-up and may need an electric fan directed toward the drying cast for improved air circulation and cooling.

(2) Observe an extremity encased in plaster for impairment of circulation.

(*a*) Inspect fingers and toes, and make sure all are visible.

(*b*) Check fingers and toes of inclosed extremity and compare them with the uninvolved extremity for numbness, coldness, swelling, and ability to move voluntarily.

(*c*) Use the blanching test. Compress the nail of the patient's thumb or the great toe of the limb in the cast with the fingers momentarily and then release the pressure. The nail should blanch (turn white) on pressure but the pink color should return immediately. Failure to blanch indicates impaired venous circulation and congestion of tissues; failure of the pink color to return immediately indicates impaired arterial circulation. In either case, report abnormal signs immediately, day or night. Do not wait. Permanent paralysis of a hand or foot can result from impaired circulation caused by cast pressure.

(3) Check for complaints of a burning sensation, numbness, tingling, pressure, or pain within the cast. Report the location and nature of the complaint.

(4) Elevate an extremity in a newly applied cast for the first 24 to 48 hours to prevent and relieve edema, which frequently develops soon after application of the cast. Elevation and ice bag application are often ordered. When a newly applied cast is elevated, it should be supported along its entire length, on an inclined plane, with distal joints higher than proximal joints—*for example*, hand higher than elbow, elbow higher than shoulder.

NOTE

If ice bags are ordered, suspend ice bags on either side, saddlebag fashion. Do not lay bags directly on the damp cast. Place ice bags in 6-inch wide stockinette sleeves and hang the sleeves on an IV pole so that the ice bags are in contact with the designated area of the cast.

(5) Turn the patient, while supporting the cast at the joints, to allow all parts of the cast to dry. Remove and replace pillowcases if damp. Note any signs of pressure of cast edges on skin. Arrange pillow supports to relieve pressure, as well as to maintain posture and alinement.

c. Finishing and Protecting Cast Edges.

(1) Cast edges may have been trimmed and finished with a smooth edge at the time of application, or edges may be finished after the cast is completely dry. The smooth finished edge prevents crumbs of plaster from working loose and settling inside the cast or in the bed where they would cause pressure sores.

(*a*) Stockinette lining finish. Pull the free end of the stockinette lining out and fold it back smoothly over the edges of the cast. Tape the stockinette edge to the thoroughly dry cast.

(*b*) Adhesive petal finish. When there is not enough stockinette or other lining material to pull over the cast edge, use adhesive tape prepared as follows (fig. 5-93):

1. Cut 1-inch (or wider) adhesive in 12-inch strips.

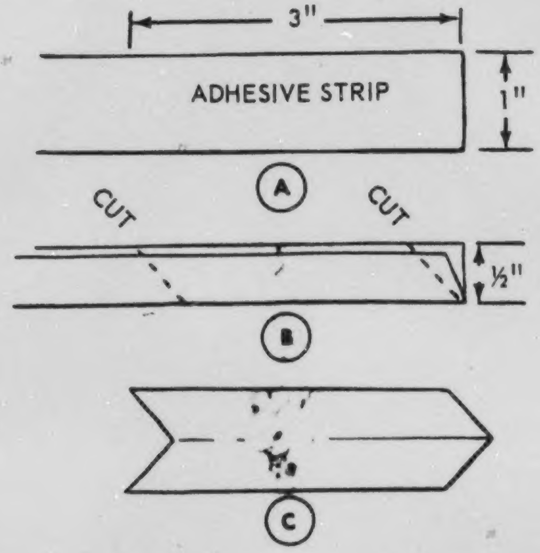

Figure 5-93. Petaling edges of cast.

2. Fold tape strips lengthwise, cloth sides together (sticky sides out).

3. At 3-inch intervals, cut pieces at a 45° angle to form petals.

4. Open each petal. Place the double point inside the cast. Overlap the petals smoothly, both inside and outside.

(2) The buttock and perineal edges of a hip spica cast and the top edge of a long leg cast should be protected with moisture-proof material such as plastic film to prevent soiling and moisture accumulation. Soiled cast lining and cast edges will cause skin irritation and a moldy, odorous, weakened cast. The adult male patient may require posterior protection only when using a bedpan, but the female patient and all children will require more complete protection.

(*a*) Cut strips of plastic in 4- to 6-inch widths. Fit overlapping strips smoothly under the cast and secure the free ends to the outside.

(*b*) Replace soiled strips with clean, dry strips. Pull out the strips at least once daily and check the lining and the cast beneath the waterproofing for soiling and moisture accumulation.

(*c*) Never apply waterproofing strips to a damp lining or plaster area. Air-dry the cast and lining before reapplying plastic.

d. Observation and Care of Skin.

(1) Look at all edges of the cast and all skin areas where the cast edges may cause pressure. Change the position of the patient and elevate and support the cast to relieve pressure. If there are signs of edema or circulatory impairment, notify the nurse or doctor immediately.

(2) Slip fingers under cast edges as far as it is possible to reach to detect any plaster crumbs or other foreign material that may have worked under the cast edge. Move the skin gently back and forth with fingertips to stimulate circulation.

(3) Lean down and smell cast edges, cast areas covering bony prominences and joints, and cast area covering wounds to detect odors indicating tissue damage. A musty or moldy odor at the surface of the cast may be the first indication that necrosis from pressure has developed beneath the cast.

(4) Check all other uncasted skin areas to detect signs of pressure. Be alert to any tendency of the patient to use heels and elbows to brace or push himself up in bed. Remind him to use the trapeze properly.

(5) Use cotton-tipped applicators moistened with alcohol to cleanse web spaces between the

toes of a casted foot and between the fingers of a casted hand.

(6) Relieve itching under a body cast by using a scratcher made of flannel or gauze bandages which are run lengthwise to extend above and below the cast. Tie the ends together on the outside of the cast. Moving the strip back and forth provides friction to relieve the itch with no danger of actually scratching or otherwise damaging the skin. Replace a soiled strip by tying on a clean one and pulling it through. Warn the patient not to use coathanger wire loops or any material which may damage skin. Blowing cool air through the cast with an electric fan will often relieve an itching spot that cannot be reached otherwise.

5–120. Turning and Positioning the Patient in a Hip Spica Cast

The hip spica is a large, heavy body cast inclosing the patient in plaster from above the waist to, and usually including, one foot or both feet. A one-and-one-half spica includes the trunk, both hips, one thigh, and one leg; the double hip spica includes the trunk, both hips, and both legs. Genitalia, buttocks, and the toes of the casted leg, or legs, are not inclosed in plaster. The patient in a newly applied hip spica is lifted into bed and placed supine on supporting pillows. He must then be turned alternately from back to abdomen to permit the cast to dry, to redistribute body weight so as to prevent pressure areas, and to help aerate the lungs and prevent respiratory complications. In general, he is turned initially on the doctor's order the first evening of cast application; then for as long as he is in the cast, he must be turned at least 4 times daily. Until the cast is thoroughly dry, three individuals should turn the patient so that there is no strain on the patient or on the damp cast. As the patient becomes accustomed to the cast and learns to help himself, one assistant will usually be adequate.

CAUTION

> In turning at any time, the affected hip and leg (the "bad side") must always be uppermost; the patient "turns on the good side." The abduction bar of the cast (fig. 5–94) should never be grasped as this would weaken the cast.

PROCEDURE

Turning and Positioning from Supine to Prone (Damp Cast)

1. Use 3 people, 1 to be team leader, 2 and 3 to be assistants.
2. Have 4 plastic protected pillows in clean, dry, pillowcases at the side of the bed toward which the patient is to turn.
3. Tell the patient what is to be done and how he can help.
4. Stand on the side of the bed corresponding to the affected hip and, on signal, pull the pillows on which the patient is lying and the patient simultaneously toward you. (Do not, for example, move the patient's head and shoulders and then his hips; his entire body must be moved simultaneously.) Do not exert any pull on the cast.
5. Have assistants 1 and 2 go to the opposite side of the bed. Assistant 3 remains on the original side. Assistants 1 and 2 tighten the drawsheet, remove all plaster crumbs, and arrange the 4 pillows as illustrated in figure 5–94Ⓐ.

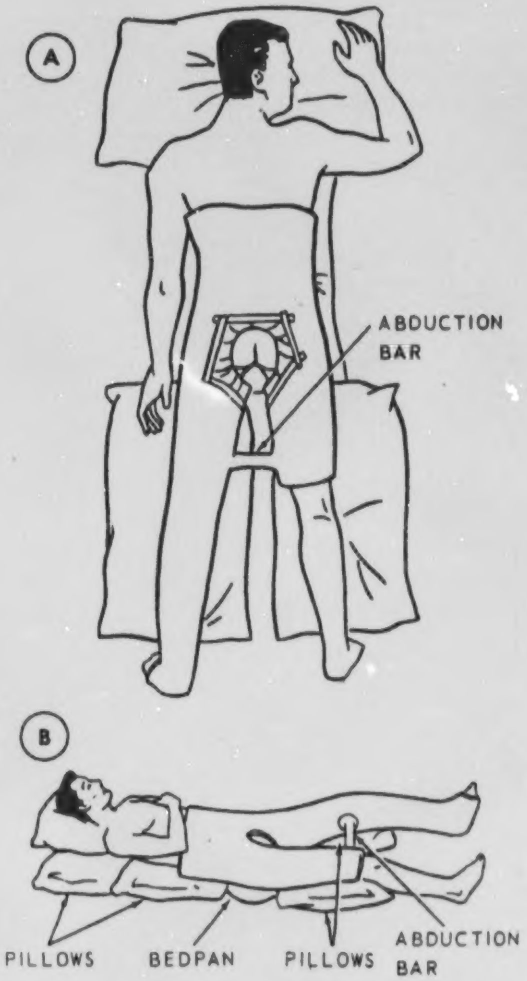

Figure 5–94. Patient in hip spica cast Ⓐ prone and Ⓑ supine position.

There must be no breaks in the pillow support for the entire length of the cast.

6. Have assistant 3 remove the pillow from beneath the patient's head. Instruct the patient to place the arm on which he is about to be turned above his head.
7. On signal from assistant 1 and in unison, turn the patient, all of his body being turned at exactly the same time. Assistant 3 slips his hands, palms up, under the patient's unaffected hip and shoulder and draws the patient toward himself while assistant 1 places his hands, palms down, on the affected hip and corresponding shoulder and simultaneously eases the patient over toward himself. Assistant 2 stands by to support the thigh and leg of the affected side on his palms as the patient is turned over onto his abdomen.
8. When turned, check the pillows supporting both legs. Always allow the toes to hang free and not be pushed in against the pillow or the mattress. In a widely abducted cast, the toes of the foot in plaster will probably hang free over the side edge of the mattress.
9. Check to make sure the cast edges are not pressing into the chest and pubis.
10. Adjust the pillow under the head for comfort and good alinement of the head, neck, and shoulders.
11. Wash the exposed back and buttocks, dry thoroughly, and rub with lotion. Slip your hand, palm down, under all edges of the cast, remove any plaster crumbs, and then gently rub the skin to stimulate circulation.
12. Check buttocks' edge of the cast for any rough spots. The cast edges cannot be finished until the cast is completely dry, but it may be possible to pull the lining down slightly, turn its edge over, and tape it temporarily.
13. Encourage the patient to lie prone for the prescribed period. This may be for an hour or more this first time. Encourage him to flex and extend his uncasted leg and to move the toes of both feet.
14. Use 3 assistants and repeat all precautions when turning again to supine position.

Pillow Supports When in Supine Position

1. Support the lumbar curve with a small thin pillow or a sheet folded into a 6-inch by 20-inch oblong. This support will prevent sagging of the cast and pressure on the abdomen.
2. Support the casted leg, or legs, along the entire length of the cast, but allow the heel to extend beyond the pillow to avoid pressure.
3. Check pillow alinement, particularly at junction of leg and body sections. This is usually the weakest part of the cast, and any sagging should be prevented.

Assisting With Urinal or Bedpan

1. Elevate the back and shoulders slightly with pillows (or gatch if permissible), to prevent moisture from running back under the cast.
2. Assist the male patient p.r.n. with placement of the urinal.
3. Use an emesis basin, slipped in place lengthwise, for a female patient for voiding. The basin is easier to place and remove than a bedpan.
4. In bedpan placement for the male or for the female patient, check to make sure that the buttocks are resting on the rim of the pan and that the head, shoulders, and back are higher than the buttocks (fig. 5-94Ⓑ).
5. When a trapeze can be used, instruct the patient to lift straight up to avoid friction on the skin while placing and removing the bedpan.
6. After using urinal or bedpan, assist the patient to clean himself thoroughly, using tissue, soap, and water. Check cast edges for soiling. If not enough cutout room has been left for proper use of the bedpan and for skin care, call this to the attention of the nurse or doctor for correction.

5-121. Instructions for Patient in an Arm or Leg Cast

Although patients with extensive body casts require more personal care than do patients with arm and leg casts, the medical specialist must continue to observe and help his more self-reliant patients. They must be taught to care for their casts, whether they are outpatients or hospitalized patients. General instructions for the patient include the following:

a. Cast Care.

(1) Do not walk on new walking casts for a period of 24 hours.

(2) Keep all casts dry.

(3) Do not alter casts.

(4) Do not remove casts.

(5) Do not put foreign objects inside of casts.

b. Prevention of Complications.

(1) To prevent swelling when a cast is applied to a limb, elevate the limb for 2 days.

(2) Report pressure points.

(3) If a cast becomes soft or broken, return for repairs.

(4) If a cast becomes too loose, return for a new one.

(5) If in doubt, return to have the cast checked.

(6) Follow the physician's orders.

c. Use Arm Sling. The type of sling required will depend upon the type of cast applied. A standard short arm cast or long arm cast can usually be adequately supported with the triangular bandage sling (fig. 5–95). If support from both shoulders is permitted, apply the sling as illustrated in figure 5–95Ⓐ, making sure the knot is tied to one side of the neck to prevent pressure on the affected side. To support the casted arm without pressure on the clavicle or shoulder on the affected side, apply the sling as illustrated in figure 5–95Ⓑ, making sure the knot does not cause pressure on the scapula. When the cast includes the elbow, the cast is usually applied with the elbow flexed at a 90-degree angle, and the casted arm and hand is therefore supported at waist level. A hanging cast (fig. 5–96) is not supported with a triangular sling. At the time of cast application, a wire loop is incorporated into the cast, and the cast is suspended from the neck by a padded tubular loop alined to the midline of the body. The neck loop ends are inserted through the cast loop in opposite directions and tied to the cast loop to suspend the cast at the height determined by the physician to maintain the desired gravity-pull.

d. Walking Casts. A walking iron or rubber heel is incorporated into the leg cast of a patient permitted to bear weight on the casted leg. A cast sock should be used. A well-fitting shoe should be

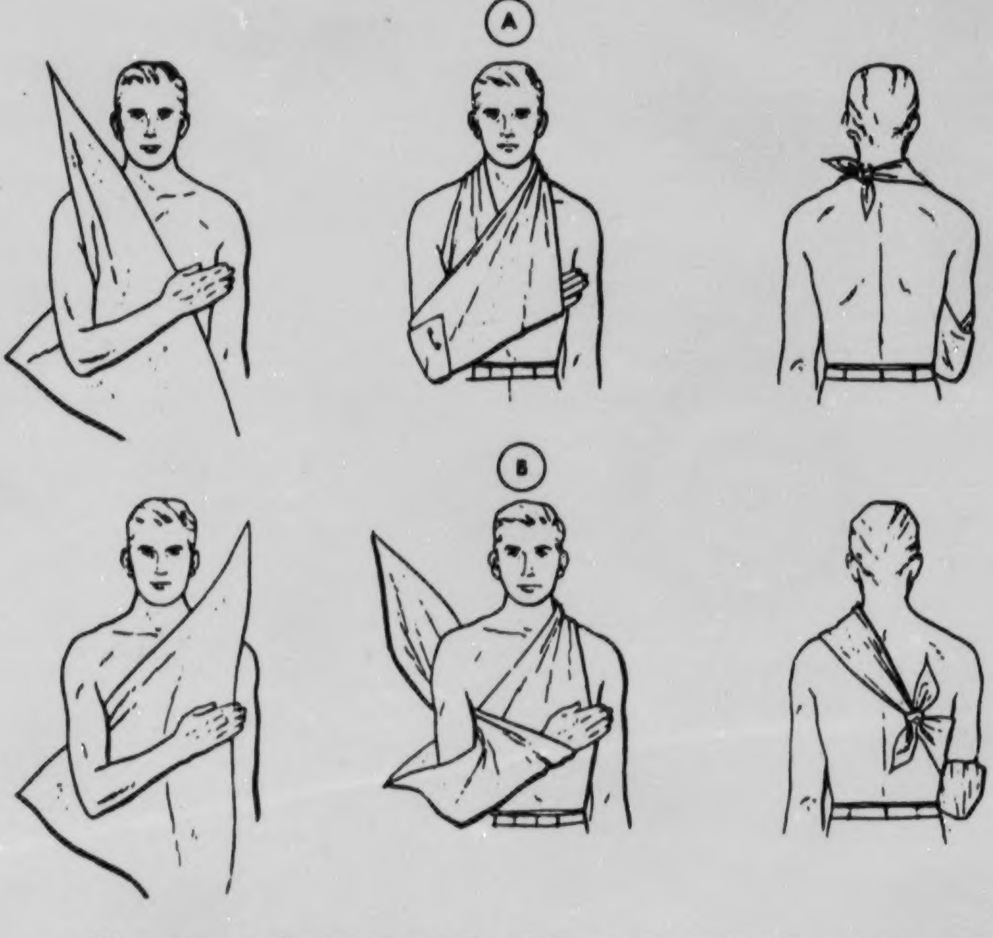

Figure 5–95. Applications of triangular bandage to form a sling (two methods).

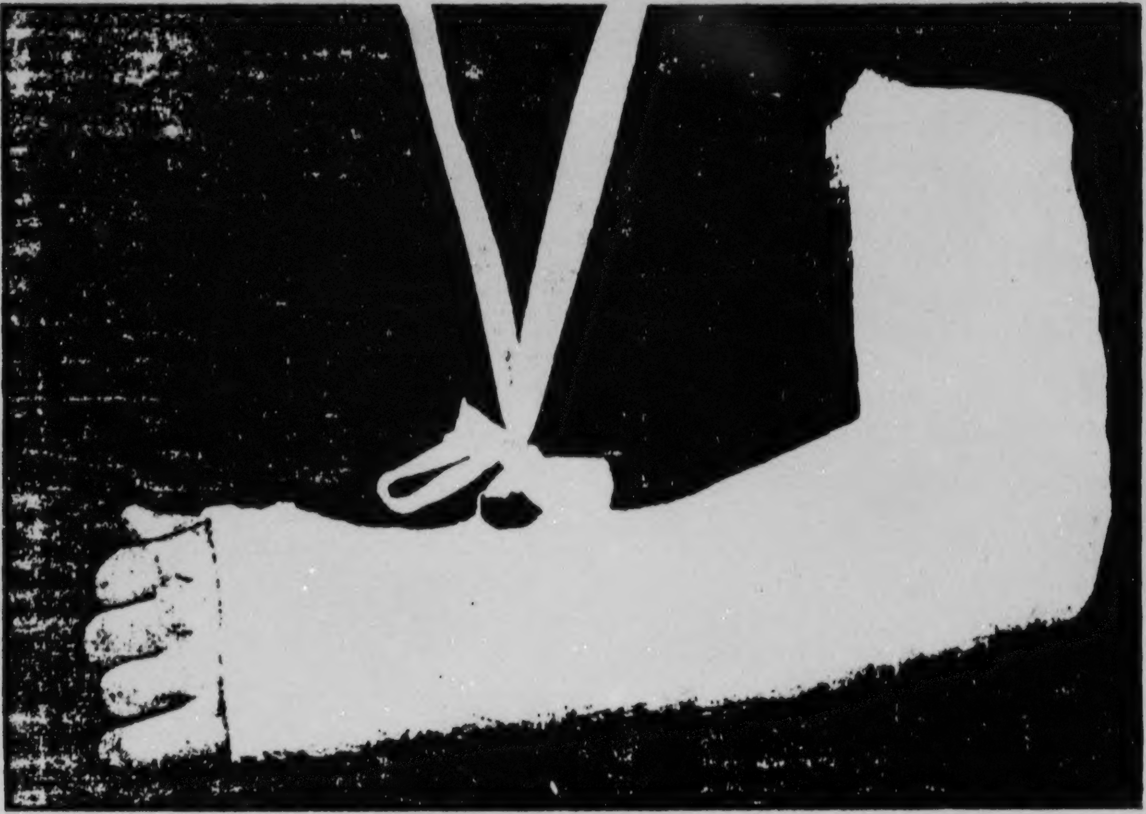

Figure 5-96. The hanging cast support.

worn on the uncasted foot and an elevator is usually attached to the shoe to maintain normal body alinement. Remind the patient to walk with his casted foot straight forward and not in eversion. The cast edges at the toes should be watched for weakened, cracking areas. The patient must be reminded to elevate the leg in the cast when sitting; walking stimulates circulation, but some swelling may develop when the patient sits with the casted leg hanging down.

5-122. Cast Cutting and Cast Removal

Casts may be cut (but the entire cast may not be removed from the casted area) for different reasons—to allow for wound dressings, to examine a painful area, or to relieve pressure. The medical specialist may be required to assist with cast cutting at the bedside as an emergency measure to relieve pressure.

a. Bivalving the Cast. Bivalving is the recommended method for emergency cutting of the cast to relieve pressure. In bivalving, the cast must be cut along its entire length on two sides, medial and lateral, and the base material (lining or padding) cut completely down to the skin along its entire length. If the cast or the lining is split only part way, the congestion will be increased and additional tissue damage will occur. To cut the cast, use a knife, a hand cutter, or an electric cast cutter; use bandage scissors to cut the base material down to the skin. To use a knife for emergency cast cutting, follow these steps—

(1) Make a shallow groove to indicate the cutting lines on both sides of the cast.

(2) Apply water or peroxide along the cutting lines with a syringe to soften the plaster.

(3) With the knife, cut through the successive layers of plaster along the cutting line. Do not attempt to slice through all layers at once.

(4) With scissors, cut through the base lining material down to the skin. Cut every thread of the lining material completely through, since the lining is sometimes the source of the trouble.

(5) Tape the bivalved cast together loosely to maintain support of the casted part until further instructions are obtained.

b. Windowing the Cast. This may be done on specific order, but it is a more hazardous procedure than bivalving because the underlying tissue may bulge through the window opening, causing "window edema." If a window is cut, the piece of plaster removed should be saved. The doctor indicates the area to be windowed. After he examines and treats the underlying area, a padded compression dressing may be applied over the exposed skin area and the cutout piece of plaster bound in place to the cast to prevent "window edema."

c. Patient Care After Cast Removal.

(1) Continue to provide support to joints and normal body curves. The muscles will have become weakened from disuse, and although movement is encouraged, support is necessary. Firm pillow supports when patient is in bed, a sling for his arm when the cast is removed, and cotton elastic bandages for his arm or leg may be necessary.

(2) Avoid soaking or any vigorous attempts to remove skin exudate and crusty scales which are commonly present when the cast has been on for several weeks. Application of oil for several days after cast removal may be recommended.

(3) If a bivalved cast shell is to be used for support, tape the edges and check the lining. Remove all plaster crumbs. Use care in storing the cast shell when not in use. A spica or body cast shell is bulky and easily damaged. The safest storage place may be on a clean sheet under the bed or the cast may be hung from a hook on the wall. (The Balkan frame may seem to be a handy rack for the cast shell, but this could be hazardous if the cast falls on the patient or on another person.)

5-123. Care of the Patient in Traction

a. General. Traction is used to promote and maintain alinement of broken bones and to relieve muscle spasm and pain. It is an exertion of pull usually accomplished by traction apparatus. To maintain traction and body alinement, countertraction (exertion of pull in the opposite direction) must be present. When traction is applied to a lower extremity, the foot of the bed may be elevated when the patient's body weight supplies countertraction.

b. Major Methods of Applying Traction. The major methods of applying traction are referred to as skin traction and skeletal traction.

(1) *Skin traction.* In skin traction, adhesive material is applied to a limb, or a halter is fitted to the patient's head or pelvis. The adhesive material or the halter is then attached to traction apparatus, and force is exerted by means of a pulley and weights.

(2) *Skeletal traction.* In skeletal traction, force is exerted directly on the bone by means of tongs inserted in the skull for reduction and maintenance of bone alinement in cervical spine injuries or by means of a pin or wire inserted through bone distal to the fracture in extremity fractures. The tong, pin, or wire is then attached to the traction apparatus, and force is exerted by means of pulleys and weights. A greater pull can be exerted by means of skeletal traction than by skin traction.

c. Preparing the Patient and His Unit for Traction. There are many local variations in traction procedures, depending upon the preferences of the orthopedic surgeon. The nursing procedures described for the care of patients in traction are guidelines that are subject to amendment by specific orders of the medical officer. In general, in AMEDD hospitals, an orthopedic specialist assists the doctor in application of traction. The medical specialist may be required to assist occasionally, but his primary responsibility lies in nursing care. In order to give effective nursing care, he should have an understanding of the basic forms of traction used and recognize some principal features of standard traction apparatus. This is because in caring for the patient he is responsible for recognizing and reporting defects at once so that the defect can be corrected by qualified personnel.

PROCEDURE

1. Prepare the bed with a thin, firm mattress and an orthopedic bedboard. Check as to whether shock blocks or other elevators are to be used at the head or foot of the bed. The patient is often positioned on an incline to provide countertraction through his own body weight.
2. Provide a footboard or sandbags to support the foot that is not in traction. Foot support for the leg in traction is usually provided by means of the footrest when the traction is applied.
3. Use a complete overhead Balkan frame with trapeze, or use only an orthopedic foot or head bar, depending on the type of traction to be used.
4. Provide two or more firm, plastic-protected pillows.
5. Make the foundation of the bed with a drawsheet. Omit the top linen, or fold it back evenly

to the edge of the mattress to allow for necessary adjustment according to the placement of the traction ropes.

Preparing the Patient

1. Remove pajama trousers for application of traction to lower limb. Provide a towel for a loin cloth drape.
2. Remove pajama coat for application of arm or cervical traction; if the coat is used, it can be placed back to front.
3. Offer bedpan or urinal before the application procedure starts.

5–124. General Observations—Traction Apparatus

In caring for the patient in traction, the following points should be observed routinely and any defect noticed should be reported and corrected:

a. Weights. The weights must hang free. Bumping into them must be avoided because it causes them to swing back and forth. Each weight bag must be tied securely to its rope.

b. Ropes. There should be no frayed spots or knots in the running length and no dragging on the bedframe or bedcovers. Ropes should not rest against each other.

c. Pulleys. The rope should rest securely in the pulley grooves. Pulley clamps must be securely attached to the bedframe and must never be moved except as directed by the doctor.

d. Spreader Bars. The spreader bars should cause no pressure on adjacent skin areas.

e. Foot Plate. The foot plate should maintain and support the foot in neutral position, with no pressure on either side of the foot, the heel, or toes. It must not rest against the end of the bed—this interferes with the traction pull.

f. Trapeze. This is suspended from the overhead bars so that the patient can reach and grasp it without strain and without twisting out of alinement.

g. Hammocks, Slings, and Halters. These should be free of wrinkles and cause no pressure on bony prominences or joints. If padding material is used, it must be clean, dry, and free of wrinkles and crumbs.

5–125. General Nursing Measures—Skin Traction

a. Skin Preparation. Check with the doctor as to whether the skin is to be shaved. Shaving is not always advised because of the possibility of skin irritation or subsequent ingrowing hair problems. The doctor may request that the skin be painted with compound tincture of benzoine; if this is done, it must be dry before the adhesive or moleskin is applied.

b. Application of Traction.

(1) Assist with application of skin traction and arrangement of traction apparatus as directed by the doctor.

(2) Understand the nature of the traction and the position and permissible patient movement to maintain the desired traction pull. Position and permissible movement differ according to the type of traction used, and these factors determine the planning of basic nursing care.

BUCK'S EXTENSION

This form of skin traction to the lower limb (fig. 5–97) provides for straight pull through a single pulley attached to a crossbar at the foot of the bed. The limb in traction lies parallel to the bed. The foot of the bed is elevated to provide countertraction and to help keep the patient from being pulled down to the foot. Usually, in Buck's extension the patient is not permitted to turn and must remain flat on his back.

Special Nursing Observations and Care

1. Check alinement of leg to maintain a straight pull from the rope attached to the center of the spreader block to the pulley mounted on the foot bar of the bed.
2. If pillow support for the leg in traction is prescribed, use a thin, firm pillow, leaving the patient's heel free to avoid pressure. The doctor may specify that only a plastic protector (no pillowcase) is to be used on the pillow. The plastic eliminates friction, and the traction is therefore more efficient.
3. Check tape strips visible on the lateral and medial sides of the leg and report immediately if tape is not adhering to skin or is slipping downward. Weight adjustment may be needed.
4. Check bandage wrappings to make sure they have not slipped downward, causing pressure on dorsum of foot and on Achilles tendon.
5. Check tape attachments to spreader block to make sure tape is not pulling away from malleoli or cutting into lateral and medial sides of the foot. If either condition is noted, the foot may be out of alinement or the spreader may need replacement.

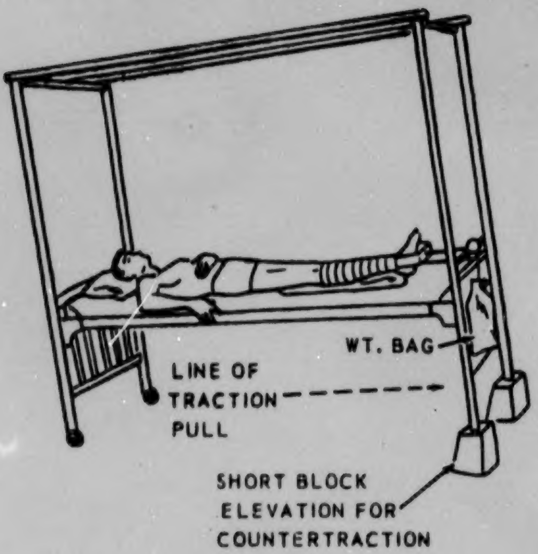

Figure 5-97. Buck's extension.

6. Observe the exposed toes for color, edema, coldness, or numbness.
7. Observe the foot for any tendency to turn in inversion (toward the midline).
8. Listen to any complaint of a burning sensation on the lateral side of the leg. This may be an indication of peroneal nerve involvement. This nerve lies close to the lateral surface of the leg at a point just below the knee and can be damaged by compression, causing paralysis of the foot.
9. To give a patient back care when he cannot turn or lift himself from the mattress by means of a trapeze, depress the mattress with one hand, while slipping the other hand under his back to reach all the skin area.
10. To place the patient on a bedpan, have an assistant support the patient while the mattress is depressed and the bedpan is slipped into place. Slip a sheet-roll support in the lumbar curve to keep the back level with the bedpan. Check to see that the skin is clean and dry after the bedpan has been removed.
11. Check the uninvolved limb to make sure it is not in a position of external rotation of the hip. Encourage the patient to toe in at intervals. Provide sandbags for foot exercise part of the time and encourage the patient to push against the firm bags.
12. Encourage and assist the patient to take 10 to 15 deep breaths every waking hour to prevent hypostatic pneumonia (pneumonia resulting from immobilization).
13. To change the foundation sheet and drawsheet, start on the side opposite the traction, and pull the linen smoothly through under the side in traction. Fold back the top linen neatly toward the center of the bed to avoid any contact with traction ropes. Use a separate small cover if the limb in traction needs to be covered for warmth; a bath towel or pillowcase may be adequate.
14. Place the bedside stand, the signal cord, and personal articles where the patient can reach them without twisting or turning.
15. Encourage the patient to reach overhead and grasp the head bars to exercise his shoulders and help his chest muscles expand.

RUSSELL TRACTION

In this form of skin traction (fig. 5-98), a system of suspension and traction pull is used. Adhesive strips are applied as in Buck's extension. In addition, the knee is suspended in a canvas sling. A felt pad is usually placed between the sling and the skin. A rope is attached to a spreader bar above the sling. This rope passes over a pulley which is positioned on an overhead bar and is then directed to a system of three pulleys at the foot of the bed: first to the pulley on the bed foot bar, next to the pulley on the foot spreader bar, and then back to a second pulley on the bed foot bar. There is an upward pull from the hammock pulley and a forward pull from the foot of the bed pulleys. In Russell traction, the angle between the thigh and the bed is approximately 20°—there is always slight flexion of the hip and knee. The

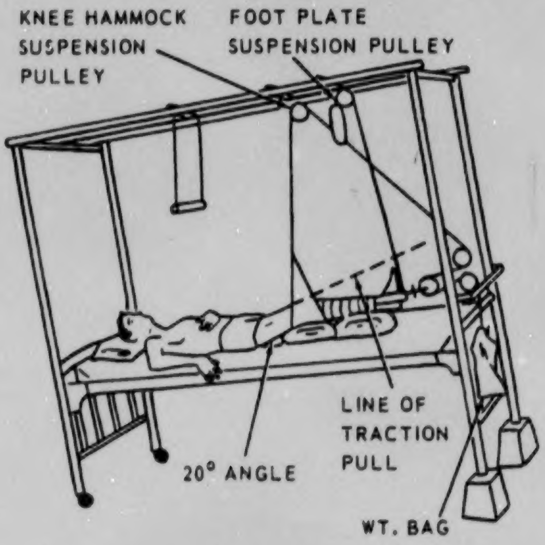

Figure 5-98. Diagram of Russell traction.

advantage of Russell traction is that some movement in bed is permissible. The patient can turn slightly toward the side in traction for back care, for placement on the bedpan, and for bedmaking.

Special Nursing Observations and Care

1. Check the popliteal space for any signs of pressure from the hammock such as ridging of the skin, redness, pain, or any discomfort.
2. Check the pillow supports—one pillow is to be lengthwise under the thigh and a second pillow under the leg, with the heel free.
3. Keep the patient from sliding down in bed. Countertraction, with the foot of the bed elevated, helps to prevent this.
4. Check all tape and bandage points as in Buck's extension.

PELVIC TRACTION GIRDLE

The pelvic traction girdle is ordinarily used for treatment of low back pain and muscle spasm. It is fitted snugly and evenly over the iliac crests. The traction straps, extending on the lateral side of each thigh, are hooked to a separate rope at about midthigh level, and each rope leads to a separate but equal weight at the foot of the bed. The foot of the bed is usually elevated to provide countertraction.

Special Nursing Observations and Care

1. Keep the girdle and the skin under the girdle clean and dry. Padding is usually avoided, unless the patient is very thin and the iliac crests are very prominent. Orders will specify when the pelvic girdle may be removed for skin care.

NOTE

> Some patients are allowed out of bed for bathroom privileges only, and then traction is resumed.

2. Protect and support the feet. Foot exercises are usually encouraged, but there must be no contact with the traction ropes.

PELVIC TRACTION SLING

The pelvic traction sling is used for treatment of pelvic fracture. The patient is placed in a canvas sling (hammock) which is suspended by a tension spring attached to an overhead frame bar. The pelvis is suspended so that it is just off the mattress.

Special Nursing Observations and Care

1. Place padding along the skin in contact with the sling edges as needed to relieve pressure on the coccyx.
2. Keep the sling, the skin, and the padding clean and dry. It is usually permissible to fold the sling back in order to place the patient on a bedpan and to give skin care.

CERVICAL TRACTION HALTER

A canvas head halter is used for treatment of affections of the cervical spine. The halter fits snugly under the chin and at the back of the head against the occipital protuberance. Traction straps are attached to a centrally placed spreader bar to which the pulley rope is attached, and the weights prescribed keep the patient's neck and cervical area in a neutral position or as specified by the medical officer.

Special Nursing Observations and Care

1. Reverse the bed from head to foot to provide easier access to the patient's head.
2. Place the head of the bed far enough from the wall to insure free suspension of weights and free access to the patient.
3. Elevate the head of the bed on shock blocks or other elevating devices to provide countertraction.
4. Do not permit the patient's head or the spreader bar of the halter to rest against the bedrail.
5. Check frequently to insure that the chin strap is not pressing on the throat and that the spreader bar is not causing pressure on the angle of the jaw and the ears.
6. Slip your hand between the halter and the patient's skin to gently massage his chin, his jaw, and the back of his ears. Depress the mattress with one hand and slip the other hand to his head to massage the back of his scalp.
7. Give the patient back care at least q.2h. The doctor always specifies the amount of turning or shifting of the patient's weight. If no turning is permitted, depress the mattress with one hand, and wash and massage the patient's back and buttocks with the other hand.
8. Feed the patint slowly and with great care. Remind him to face forward and not to turn toward the spoon, fork, or drinking tube. Allow plenty of time for him to chew and swallow.
9. Keep suction equipment on hand for immediate use to prevent aspiration when feeding or giving mouth care. Remember, if he chokes, he cannot be turned or raised forward.

STUMP BANDAGING

When the stump wound is healed, the stump must be conditioned and shaped for proper fitting of a prosthesis. Bandaging with a special technique is used to shrink and mold the stump to a smooth, conical shape. Patients are normally taught how to apply the bandage by a physical therapist. The recommended procedure usually is to remove and reapply the bandage twice daily and to wash and expose the stump to air before reapplying. Nursing supervision and assistance with stump bandaging on the ward is, therefore, customarily needed. During the shaping process, the bandage is worn day and night. Different methods are used in applying the bandage. One method of application for below-knee (B/K) amputation and for above-knee (A/K) amputation is illustrated in figure 5-100. The cotton elastic bandage must be applied to provide equal, firm compression in a crisscross or spiral pattern, with no circular turns that can constrict circulation.

5-128. Assisting With the Use of Crutches

The use of crutches is a complicated procedure that is usually taught by a physical therapist. There are occasions, however, when the medical specialist may have this responsibility, particularly when crutches are to be used temporarily by a patient in good physical condition—*for example,* a patient who has been treated as an outpatient. The medical officer prescribes the use of crutches and the gait (crutch-walking) method to be used. The prescribed gait depends upon the amount of weight bearing permitted on the affected leg. The gait most commonly taught by the medical specialist is the "3-point" gait, with no weight borne on the affected leg. The crutches are moved with the affected limb (fig. 5-101).

PROCEDURE

Measuring for Crutches

Crutches need two adjustments—the length of the crutch and the position of the hand grip. Rubber tips should be on the crutches, and the patient should wear a shoe on the unaffected side for the measurement.

1. Have the patient lie supine, hands at sides, wearing a shoe on the unaffected foot.
2. Using a tape measure, measure from the border of the axilla to the heel of the shoe plus 2

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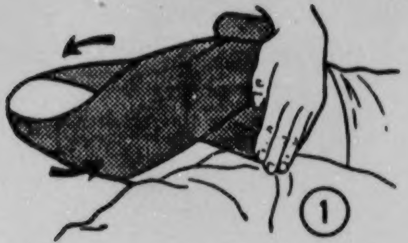
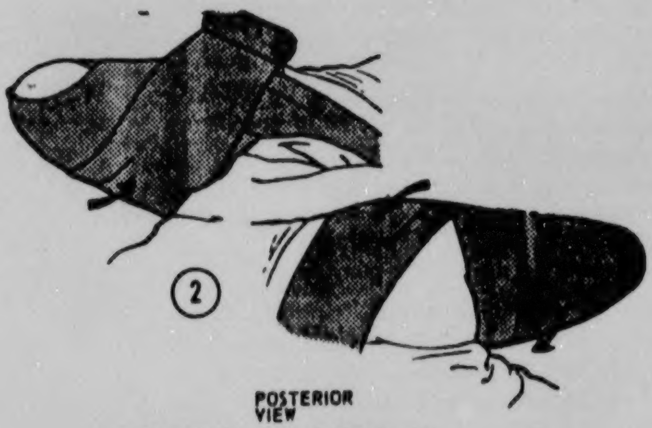
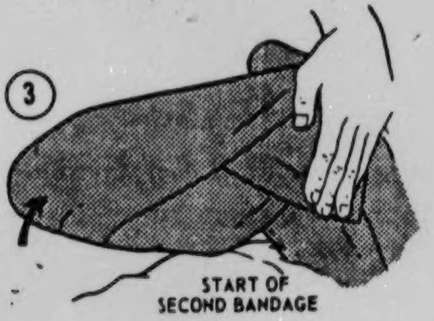


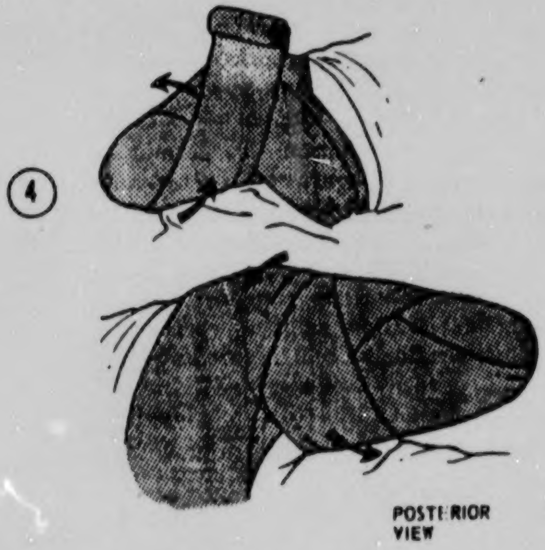
START FIRST BANDAGE IN THE INGUINAL AREA AND PROCEED DIAGONALLY AND LATERALLY OVER THE DISTAL STUMP. COVER THE POSTERIOR MEDIAL CORNER, THEN CONTINUE DIAGONALLY AND ANTERIORLY UP TO THE ANTERIOR ILIAC CREST, POSTERIORLY AROUND THE PELVIS. THERE WILL BE AN EXPOSED AREA OVER THE DISTAL LATERAL CORNER OF THE STUMP.



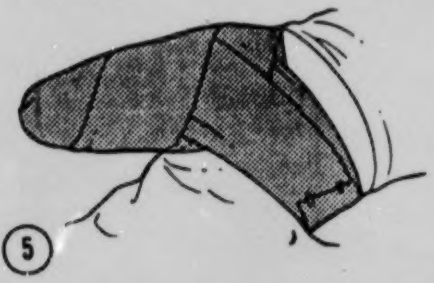
FOLLOWING THE ENCIRCLING TURN AROUND THE PELVIS, BRING THE BANDAGE DIAGONALLY, LATERALLY, AND POSTERIORLY AROUND THE PROXIMAL STUMP AND UP HIGH INTO THE ADDUCTOR AREA MEDIALLY. CONTINUE UPWARD OVER THE ANTERIOR ILIAC CREST AND POSTERIORLY AROUND THE PELVIS.



START THE SECOND BANDAGE SLIGHTLY LATERAL TO THE FIRST, PROCEED DIAGONALLY AND LATERALLY TO COVER THE DISTAL LATERAL CORNER WHICH WAS LEFT EXPOSED ON PREVIOUS TURNS. CONTINUE AROUND DISTAL END TO ANTERIOR ASPECT AND OBLIQUELY UPWARD TO THE ANTERIOR ILIAC CREST AND AROUND THE PELVIS.



CONTINUE WITH FIGURE-OF-EIGHT TURNS, WITH PRESSURE EXERTED DISTALLY AND GOOD COVERAGE IN THE GROIN TO PREVENT ADDUCTOR ROLL.



COMPLETED BANDAGE.

Ⓐ RIGHT ABOVE KNEE (A/K)

Figure 5-100. Stump bandaging.

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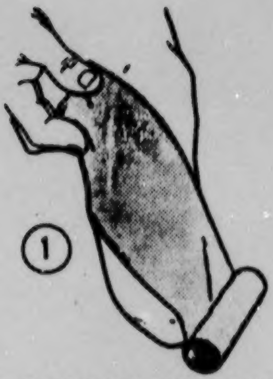

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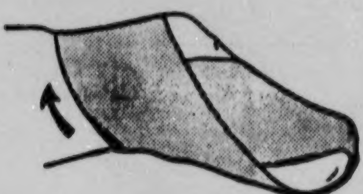
START FIRST BANDAGE PROXIMAL TO THE LATERAL FEMORAL CONDYLE AND PROCEED DIAGONALLY ACROSS THE ANTERIOR ASPECT OF THE STUMP.



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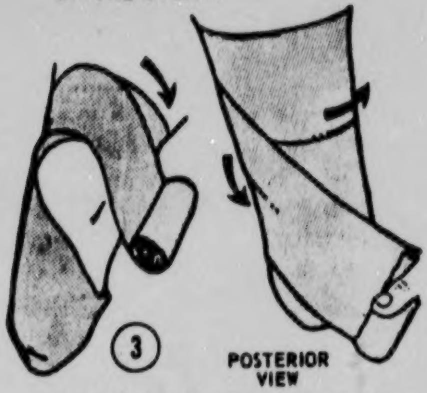
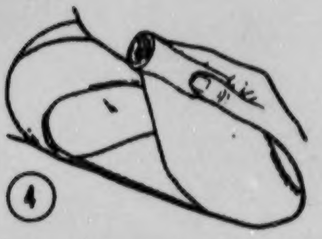
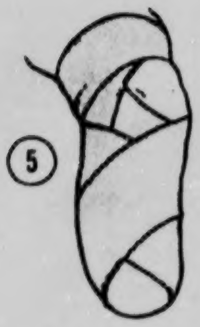
CIRCLE AROUND THE DISTAL PORTION OF THE STUMP AND CONTINUE DIAGONALLY ACROSS THE POSTERIOR ASPECT TO ANCHOR THE END OF THE BANDAGE. ENCIRCLE THE KNEE PROXIMAL TO THE PATELLA, AVOIDING A CONSTRICTING TURN.



BRING THE BANDAGE MEDIALLY OVER THE MEDIAL TIBIAL CONDYLE AND DIAGONALLY ACROSS THE POSTERIOR ASPECT OF THE STUMP.



COVER THE LATERAL DISTAL CORNER OF THE STUMP AND PROCEED UPWARD DIAGONALLY ACROSS THE MEDIAL TIBIAL CONDYLE TO ENCIRCLE THE PROXIMAL KNEE AREA AGAIN.



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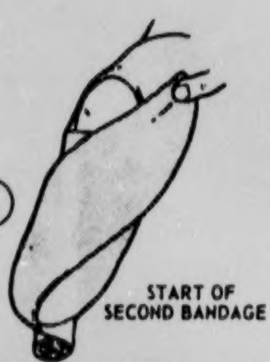
CONTINUE WITH FIGURE-OF-EIGHT TURNS, LEAVING THE PATELLA EXPOSED.



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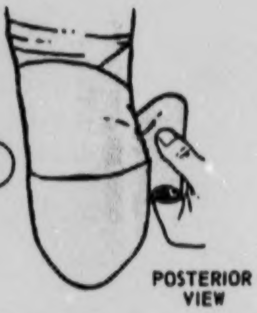
START THE SECOND BANDAGE PROXIMAL TO THE MEDIAL FEMORAL CONDYLE AND PROCEED DIAGONALLY ACROSS THE TIBIA TO THE LATERAL CORNER OF THE STUMP.



⑦

CONTINUE WITH FIGURE-OF-EIGHT TURNS, EXERTING PRESSURE DISTALLY AND AVOIDING CONSTRICTION PROXIMALLY.

Ⓑ RIGHT BELOW KNEE (B/K)

Figure 5-100—Continued.

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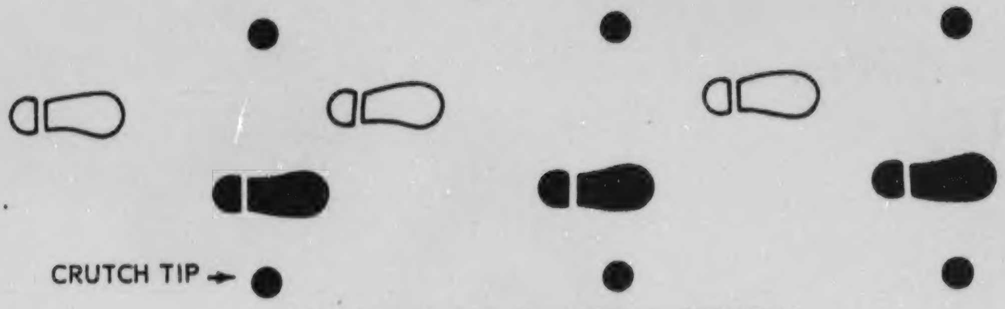

(SHADED PRINT IS AFFECTED EXTREMITY.)

Figur[illegible]101. The 3-point gait.

inches. Adjust the crutch shaft to this measurement.

3. Ask the patient to place his arm over the crutch and grasp the handbar so that his elbow is in approximately 30 degrees flexion and the palm of his hand is flat on the handbar. Adjust the handbar if necessary.

Teaching Use of Crutches for "3-Point" Gait

1. Be sure a shoe is worn on the unaffected foot.
2. Be sure the crutches have rubber tips in good condition.
3. Assist the patient to stand upright, bearing weight on his good leg.
4. In standing position, place the crutch tips about 6 inches ahead and to the side of the toes. This 3-point contact with the floor is the tripod position (fig. 5–102).
5. Tell the patient to lean forward slightly and to shift his weight to his hands. He should practice shifting his weight to his hands and then back to his good leg before attempting to swing his body to a position just ahead of the crutches.
6. Check to make sure his weight is borne on the palms of his hand, not by leaning the axillae on the crutches. Paralysis of the radial nerve ("crutch paralysis") may result if weight is borne in the axillae. When crutches are properly adjusted, you should be able to slip two fingers between the top of the crutch and the patient's axilla.
7. Encourage the patient to take short swing-through steps, landing just beyond the crutches. In this way, weight is shifted back to the good leg and the crutches are then advanced to tripod position in preparation for the next step.
8. Stand in back of the patient when he is learning to use crutches. If he begins to fall, grasp his waist and support his weight against your body.
9. Remind him to check the way ahead to see that there are no wet or slippery places and no obstacles, and then to walk with head erect.

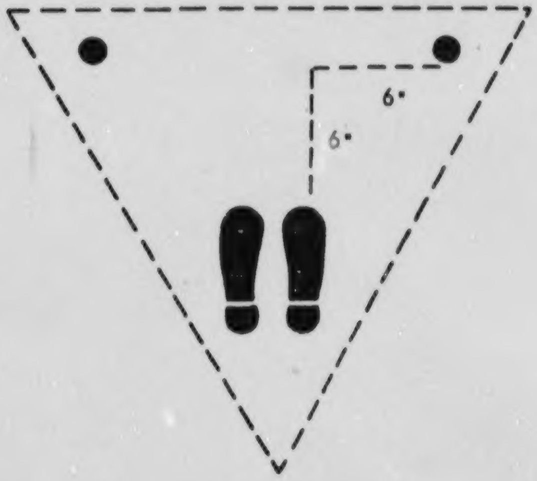

Figure 5–102. Standing position (tripod).

5–129. Use of Turning Frames

a. General. Turning frames are devices used to provide immobilization and to facilitate nursing care for the patient who, while immobilized, needs frequent changing from supine to prone position. A turning frame is used in the treatment of patients with such conditions as extensive burns, spinal and pelvic fractures, tuberculosis of the spine (Pott's disease), and spinal cord injury. The use of a frame is so important in the initial medical care of a cord-injury patient that improvised frames fashioned from standard canvas litters are used under combat conditions when commercially manufactured frames are not available. The major advantages in the use of a frame are to prevent complications such as—

(1) *Pressure sores.* With relief of pressure from body weight on pressure areas (fig. 5-24), the blood supply to the skin is improved. Larger body areas are also exposed for complete skin care.

(2) *Respiratory congestion.* Rotation of the patient to face-down position aids gravity in loosening and ridding the lungs of fluid accumulations. The patient can cough and expectorate more effectively in prone position.

(3) *Kidney and bladder complications.* Rotation of the patient aids gravity in the elimination or urine sediments (heavy waste materials that may form kidney or bladder stones).

b. Types of Frames.

(1) The Foster reversible orthopedic bed and the Stryker turning frame are commonly used. Both are double frames which are rotated on the longitudinal (side-to-side) axis. Their operation is similar in principle, with variations in the details of preparing the frame for use and in the turning method; *for example,* the Foster bed can be adjusted for hyperextension, while the Stryker frame requires separate hyperextension frames.

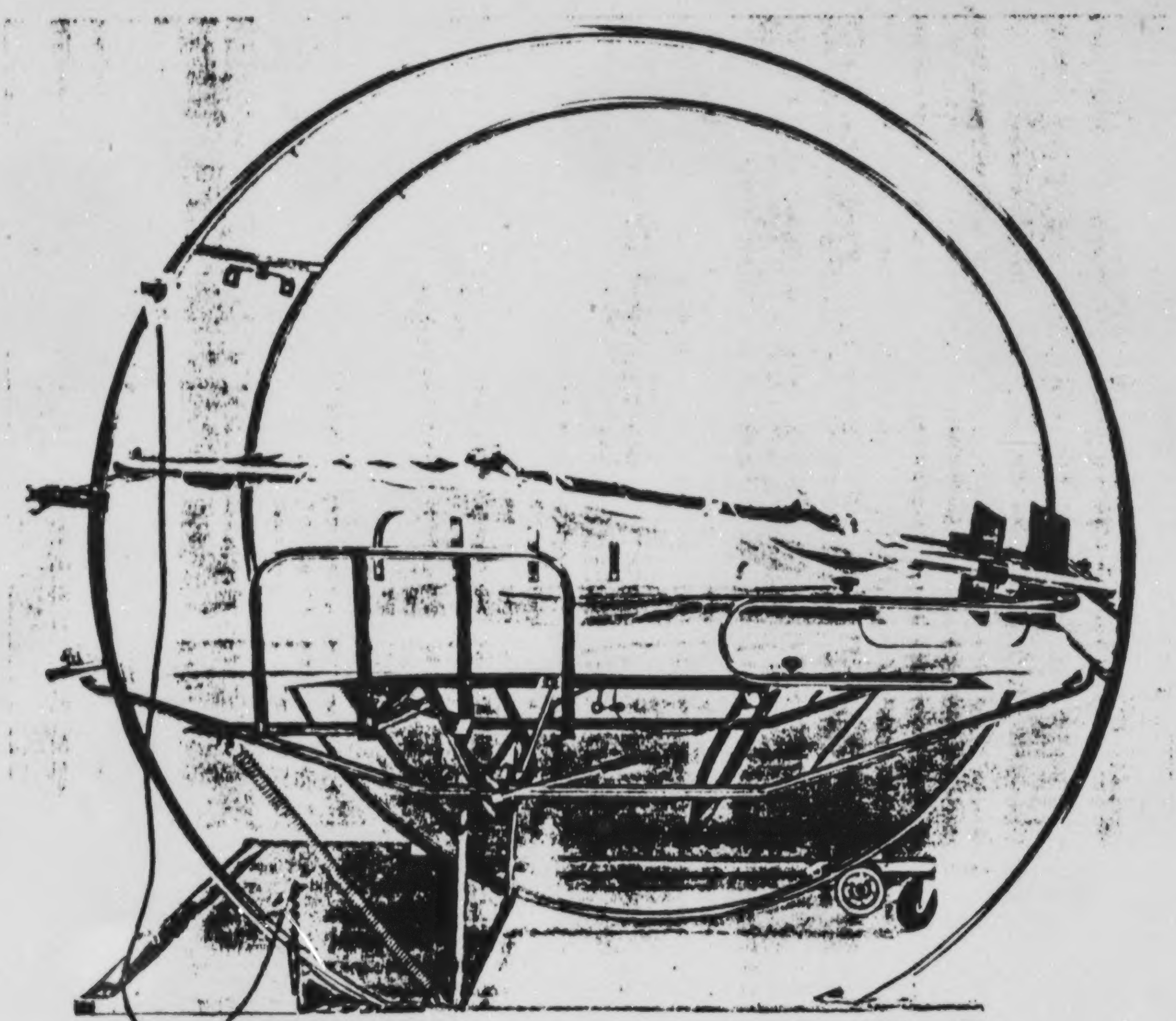

Figure 5-103. CircOlectric bed.

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As for similarities, both have a rotary-bearing turning apparatus at each end and, when traction is used, it can be maintained during the turning process, and both can be elevated at either the foot or head end by extending the legs of the frame and inserting lockpins in holes at the selected height. The patient is sandwiched in between two canvas-covered frames when he is turned. The frame on which he lies prone is the anterior frame; the one on which he lies supine is the posterior frame.

(2) Improvised litter frames. Two canvas litters, padded with smoothly folded Army blankets are prepared for use as an anterior and a posterior frame. The frames are placed on sawhorses for greater stability but can be used on standard litter brackets.

(3) Stryker CircOlectric hospital bed. At the present time the CircOlectric bed (fig. 5-103) is a nonstandard item that is used in some AMEDD hospitals. It is an electrically powered apparatus which can be used as a turning frame for vertical (end-over-end) rotation, as a tilt table to support the patient in a partially erect or an erect stance, and for unrestricted gatch positioning. (Complete operating instructions are provided in an illustrated manual provided by the manufacturer.)

5-130. Foster Reversible Orthopedic Bed

The Foster reversible orthopedic bed (fig. 5-104) is the turning device most commonly used in AMEDD hospitals.

IDENTIFICATION OF PARTS

1. *Frame locking bars.* There are four frame locking bars (A, fig. 5-104), two in each head and foot assembly. These bars hold the anterior and posterior frames in place. The top bar is removed at the head and foot to release the top frame after turning. The bottom bar at the head and foot secures the frame on which the patient is lying. You must never pull out the bottom bars when the frame is in use. Mistakes have occurred, and the patient has been dropped to the floor because the person caring for the patient has become confused and pulled out the wrong locking bar.
2. *Safety lock T-handle.* The safety lock T-handle (B, fig. 5-104) at the head of the bed secures the rotating mechanism. The safety lock is released by turning the T-handle until it is loosened. This is done just before the frames are rotated. At all other times, the safety lock T-handle must be tight.
3. *Posterior Frame.* The posterior frame (C, fig. 5-104), on which the patient lies supine, is identified by the straight rod turnbuckle toward the head end of the frame. Two long canvas sections are laced in place, leaving a 4- to 6-inch opening between these two sections for the bedpan. A canvas strap is always buckled in place to keep the buttocks from sagging through the opening; this strap is removed only for times when the patient uses the bedpan or for skin care. Note placement of the bedpan holder in D, figure 5-104. The deep end is always toward the foot; otherwise the bedpan cannot be slipped in place.
4. *Anterior frame.* The anterior frame (E, fig. 5-104), on which the patient lies prone, is identified by the looped turnbuckle toward the head of the frame.

NOTE

The turnbuckles on the posterior and anterior frames are used to adjust the frames for hyperextension. However, unless this feature is ordered by the doctor, the frames are kept straight, and the turnbuckles must never be turned.

Two short canvas sections are laced in place: one extending from just below the shoulder girdle to the symphysis pubis and the other extending from 4 to 6 inches below the pubis to the internal malleoli of the ankles. These two covers must be adjusted to conform to the patient's body structure. Two canvas straps are used on the anterior frame in addition to the covers. The broad strap covers the perineal opening and the narrower strap supports the patient's forehead—it is the headrest.

5. *Traction bar.* The T-shaped traction bar (F, fig. 5-104) at the foot of the bed is used for pelvic and lower-extremity traction. The traction ropes leading to the pulley and weights are attached to this bar.

NOTE

When cervical traction is needed, the traction rope is passed through the rotary mechanism at the head of the bed, and no traction bar is used.

6. *Traction pulley.* A traction pulley (G, fig. 5-104), at the head and foot of the bed receives the rope passed through the rotating mechanisms, which maintain constant traction at the head or foot when the frames are rotated.
7. *Leg lockpins.* Leg lockpins (H, fig. 5-104)

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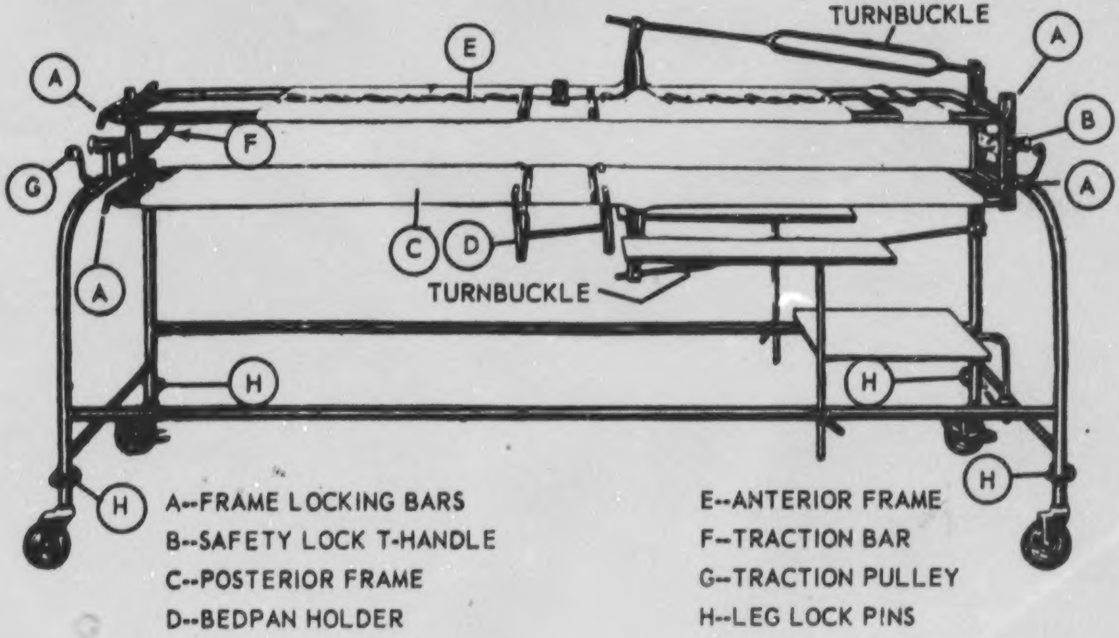

Figure 5–104. Foster reversible orthopedic bed.

secure the legs in extended position when the head or foot of the bed is elevated for countertraction, or when elevation is needed for other purposes.

8. *Accessories.* The arm boards and the utility tray fit into slots and can be swiveled into desired positions, raised, and lowered. A footrest (not illustrated) is also used; it is clamped to the posterior frame at the level required to support the patient's feet at a right angle.

NOTE

> When the patient lies prone, if the anterior cover section has been applied to the frame properly, his feet will hang free, perpendicular to the floor. Thus, with proper positioning on either frame, plantar flexion (foot drop) can be prevented. It is important to note that with adjustment of the arm boards, effective support and range of motion of the shoulders and arms can also be provided. (Appendix B illustrates the range of motion of extremities.)

9. *Frame padding.* Foam rubber padding and contoured bedsheets may be available for use on both anterior and posterior frames. In most AMEDD hospitals, bed pillows are substituted for the commercial frame pads and sheets. The use of pillows has several advantages: pillows can be fluffed up and aerated, individual soiled pillows and soiled cases can be changed easily, and no special linen exchange arrangements need be made with the laundry. Four to five pillows for each anterior and posterior frame are required, and one or more pillows for each arm board. The pillows temporarily not in use must be stored neatly at the bedside and reserved for individual use of the patient. Bedside pillow storage can be a problem; one answer is to place boards across the side rails of the base of the frame to form a platform on which the pillows are stacked.

TURNING THE PATIENT ON THE FOSTER BED

The doctor will order the interval between turnings, and turning must take place at the scheduled interval both day and night. The usual policy in AMEDD hospitals specifies:

1. Two persons will assist with each turning, one at the head and one at the foot of the frame.
2. Three restraining straps will normally be used around both frames when the frames are turned, one at the level of the knees, one at the hips, and one at the elbows.
3. No pajamas will be worn by the patient—this allows maximum skin exposure, and no manipulations are needed in putting pajamas on and

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taking them off. A loin cloth (hand towel) is draped over the genitalia, and a woman patient also has a towel placed over the breast. Undue exposure must be avoided.

Procedure (Supine to Prone)

1. Tell the patient what is to be done.
2. Lock wheels.
3. Clamp and detach drainage tubes, if in use.

NOTE

If a urinary catheter, use aseptic technique. Place the catheter between the thighs where it will be accessible through the perineal opening of the anterior frame when he has been turned. Place the detached end of the urinary drainage tube in a fold of sterile towel on the utility shelf, making sure the free end is above the drainage bottle to prevent siphonage.

4. Remove the foot support. Lower the arm supports, and swivel them under the frame.
5. Place the patient's arms in extension at his side. If his arms are paralyzed, place his hands slightly under the thighs to prevent dangling off the frame.
6. Remove any covering sheet, with no undue exposure.
7. Place wrinkle-free pillows crosswise on the patient, overlapping edges, from chin to pubis and from below genitalia to ankles.
   a. If foam-padded frames are used, place pillows across the knees to hold legs snugly in place when turning.
   b. If the patient has a tracheotomy, place the first two pillows to form a V-neckline to assure a clear airway.
8. Place the anterior frame over the patient, lowering the head end first so that it is snug but with no undue pressure. Ask the patient how it feels.
   a. Aline the locking slot on the head end of the frame to the appropriate hole in the head assembly.
   b. Slide the locking bar through the hole, the slot, and the hole on the opposite side. Check to see that the hinged end of the locking bar is angled down (toward the floor) when the bar is in place.
   c. Lock the foot end in a similar manner, checking to see that the foot slot is alined to the same hole as the head slot.

NOTE

The assistant at the foot end verifies the slot and hole alinement with the assistant at the head end.

9. Secure restraining straps.
10. Warn the patient that he is about to be turned. The specialist at the head end tells the patient and his assistant the direction of turn ("left" or "right" designates the patient's left or right side).
11. Have the specialist at the head end loosen the T-lock handle and give the signal to the assistant at the foot end. Both turn the frame quickly and smoothly to prone position.

NOTE

When turning the frame must be a 1-man operation, with no assistant available, loosen the T-lock handle while holding the frame steady. Then stand near the head end at the side of the frame and rotate the frame toward you.

12. Have the specialist at the head end reset the T-lock handle. Test the bottom frame by attempting to rock it back and forth. It should be firmly positioned.
13. Remove locking bars from TOP frame.
14. As the bars are removed, slip each one through the loop of the corresponding bottom bar to avoid mislaying one. If a bar is lost, the frame cannot be secured for turning.
15. Remove the top frame, placing it upright against the nearest wall.
16. Remove the pillows on which the patient was lying.
17. Using aseptic technique, reconnect drainage tubing. Release all drainage clamps.
18. Adjust padded perineal strap, making sure there is no constriction of the catheter if one is used.
19. Adjust forehead, arm, and foot supports for comfort and body alinement.
   a. Adjust forehead strap so that there is no pressure on eyes.
   b. Check to make sure there is no pressure on the throat from the top cover of the anterior frame.
   c. Pivot arm rests, elevate them, and adjust pillows on them to support the arms, shoulders, wrists, and hands in a position of function. The arms may be placed in abduction with forearms in flexion, or al-

ternately, in extension. (Appendix B illustrates joint movements of arms and shoulders.)

   d. Elevate the lower legs slightly by placing a small pillow or pad under the shins so that the knees are in slight flexion and the feet hang perpendicular to the floor, with no pressure on the dorsum of the feet.

20. Give the patient back care from the top of the head to the soles of the feet, with special attention to the back of the head, the back edges of the ears, and all bony prominences of the trunk and extremities. Report any evidence of pressure sores immediately.

21. Swivel the utility tray in reach of the patient's hands. He can use the tray when he is in prone position and has use of his arms and hands for many purposes—feeding himself, reading, shaving, tooth brushing, etc. Be sure the tray is clean, dust free and secured by the lockpin.

22. Check posterior frame, making sure the canvas is taut and clean. Replace canvas p.r.n.

23. Replace any soiled pillowcases. Fluff and aerate pillows and stack neatly on a platform made on the bedrails, or on a chair.

24. Store turning straps in designated place—looped to the frame or rolled and placed in the bedside stand. Do not mislay the straps.

Procedure (Prone to Supine)

1. To turn from prone to supine follow procedure for turning from supine to prone, steps 1 through 17, with these exceptions to step 7—
   a. When pillow padding is used, overlap edges from head to heels, arranging an overlap at buttocks level so that space can be made p.r.n. for using bedpan and for cleansing.
   b. Follow local instructions for placement of small pillow or pad at cervical and lumbar areas (fig. 5–105)—remember that when the patient is supine, these two areas may need additional support. Placement of supports before turning will prevent sagging.
2. Check body alinement when in supine position.
   a. Adjust buttocks strap so that buttocks do not sag through the bedpan opening.
   b. Check alinement of hips and thighs to avoid either external or internal rotation at the hips. Separate thighs slightly, using towel roll p.r.n. on either side of each thigh for support.
   c. Adjust leg pillows so that the heels are free of pressure.
   d. Place a small pad under the knees to provide slight knee flexion.
   e. Place footrest to support feet at a right angle, separate ankles, using a small pad between ankles and a towel roll or sandbag on either side to prevent inversion or eversion.
   f. Adjust arm boards and pillow supports to provide prescribed range of motion and position of function for shoulders, arms, wrists, and hands.
3. Give skin care with special attention to all bony prominences—clavicles, hip bones, and knees. Note any signs of pressure and report them immediately.
4. Check perineal area. Cleanse genitalia p.r.n. If indwelling catheter is present, check its position and note free drainage in connector.

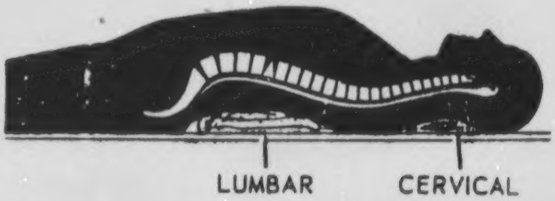


Figure 5–105. Effects of pads to support lumbar and cervical areas.

5–131. Stryker Turning Frame

The Stryker turning frame (fig. 5–106) is commonly used when transporting patients between hospital treatment facilities. It is also used in hospital wards. The turning frame rests on a wheeled cart base. The frame is lifted off the cart when necessary for loading and unloading operations during transportation.

IDENTIFICATION OF PARTS

1. *Cart.* The wheels of the cart (A, fig. 5–106) can be locked and the legs elevated for traction at head or foot. The support runners of the frame are locked in place with a wing-nut bolt so that the frame rests securely on the cart. The utility tray (fig. 5–106) slides on the cart base to the desired place for use.
2. *Locking pin.* Two round locking pins (B, fig. 5–106) at the head and at the foot of the Stryker frame release the rotating mechanism.

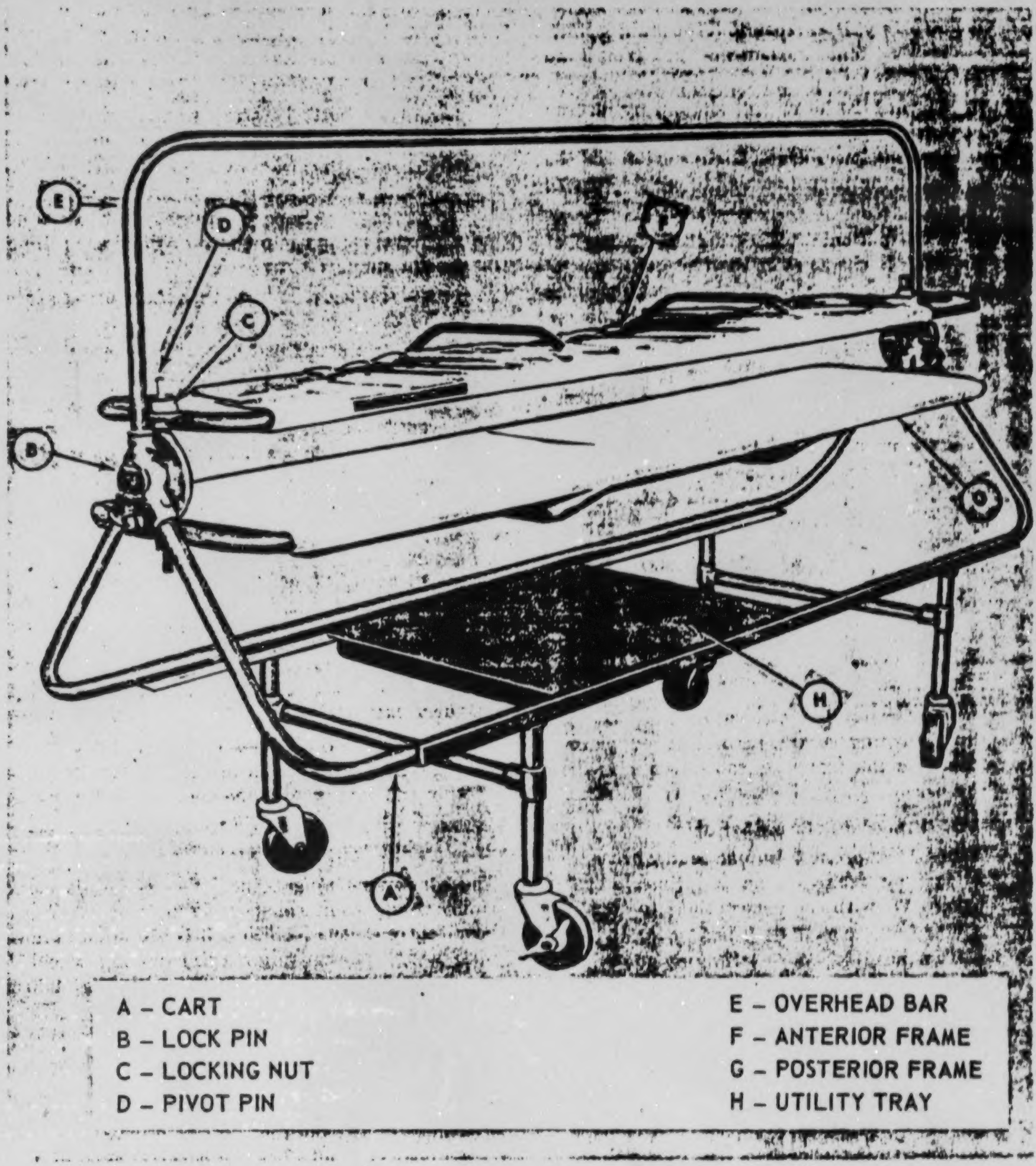

E
D
F
C
B
G
H
A
A – CART
B – LOCK PIN
C – LOCKING NUT
D – PIVOT PIN
E – OVERHEAD BAR
F – ANTERIOR FRAME
G – POSTERIOR FRAME
H – UTILITY TRAY

Figure 5–106. Stryker turning frame.

Pull them out for turning; they will re-engage automatically when the frame is turned. Always check to see that both ends are locked by rocking the frame slightly. Do not use the frame if the locking pin cannot be re-engaged.

3. *Locking nuts.* Four round, knurled, screw nuts (C, fig. 5–106) fit onto the 4 pivot pins (D, fig. 5–106) of the head and foot turning assembly. When in use, the locking nuts hold the anterior and posterior frames together for turning and

secure the frame on the pivot pins. If a nut is lost or misplaced, the frame cannot be used.

CAUTION

> **When you remove a locking nut, hold it in your hand and, as soon as the frame is lifted off the patient, replace the nut on the pivot pin.**

4. *Overhead bar.* This bar (E, fig. 5–106) is detachable and is removed when the patient is first lifted onto the frame. It can be used to drape top covers as with a bed cradle. A patient who is permitted to lift himself can also grasp the bar as he would a trapeze.
5. *Anterior frame.* This is the frame (F, fig. 5–106) on which the patient lies face down. It is fitted with a 1-piece canvas cover that has a round perineal opening. The length of the anterior canvas is adjusted on the frame to conform to the patient's dimensions: from shoulder girdle to perineal opening and from perineal opening to internal malleoli of the ankles. The canvas is kept taut by hooks and tension straps. A face piece (not illustrated) or a canvas strap is used on the anterior frame for a headrest.
6. *Posterior frame* (G, fig. 5–106). This is the frame on which the patient lies face up. It is fitted with a 2-piece canvas cover and a canvas buttocks strap.
7. *Accessories* (not illustrated). Arm boards fit into slots on the runners and cart base, and a footrest clamps to the posterior frame. Foam rubber padding and contoured sheets may be available, or pillow padding may be used as with the Foster reversible bed.

PROCEDURE FOR OPERATING THE STRYKER FRAME

Follow procedure as for the Foster reversible bed (para 5–130) with these exceptions—

1. The operators at the head and the foot of the frame remove the top knurled locking nut from the head and the foot pivot pins. Each operator holds the locking nut in his hand until it is replaced on the pivot pin.
2. The frame to which the patient is to be turned is placed over the patient, fitting the holes at the head and the foot of the frame on the pivot pins.
3. The knurled locking nuts are screwed on the pivot pins, securing first the head end and then the foot end.
4. The restraining straps are fastened and the patient and assistant are instructed on the direction of the move.
5. The locking pins at the head and at the foot of the frame are pulled out and the frame rocked slightly to make sure both are disengaged.
6. The patient is turned. The locking pins should both snap back into place when the turn is completed. Frame can be tested by attempting to rock it slightly.
7. The straps are unfastened and removed from the top frame by unscrewing the TOP knurled locking nuts at the head and foot. Nuts on the pivot pins are replaced immediately.

5–132. Improvised Field Litter Frames
(fig. 5–107)

a. Anterior Frame. This is the frame on which the patient lies face down. Two holes are cut in the canvas—one for the face and a small central one for a urinary catheter drainage tube. Folded blankets are used to pad the litter. Holes punched in the blanket are laced with bandage on the underside to provide a smooth, firm, wrinkle free surface. Holes corresponding to the litter face and catheter holes are cut in the blanket and the openings are heavily taped for reinforcement. ABD pads secured around the holes provide extra comfort and protection.

IMPORTANT NOTE

> **Holes must correspond to the face and genitalia of the patient for whom the frames are prepared.**

b. Posterior Frame. This is the frame on which the patient lies face up. One hole for use of a bedpan may be cut in the litter. When this is done, the canvas must be heavily taped for reinforcement to avoid tearing from the weight of the body. The blanket padding also has only one hole cut for the bedpan, and a thickly padded strap must be available for use to keep the buttocks from sagging through the opening when the bedpan is not in use.

c. Footboard. A padded right-angle footboard must be used when the patient is supine, to support the feet in neutral position. Any available box of suitable size is an appropriate footboard.

d. Turning Straps. Two webbed straps are used to hold the two frames together when turned. The turning straps are placed at the knees and at the chest.

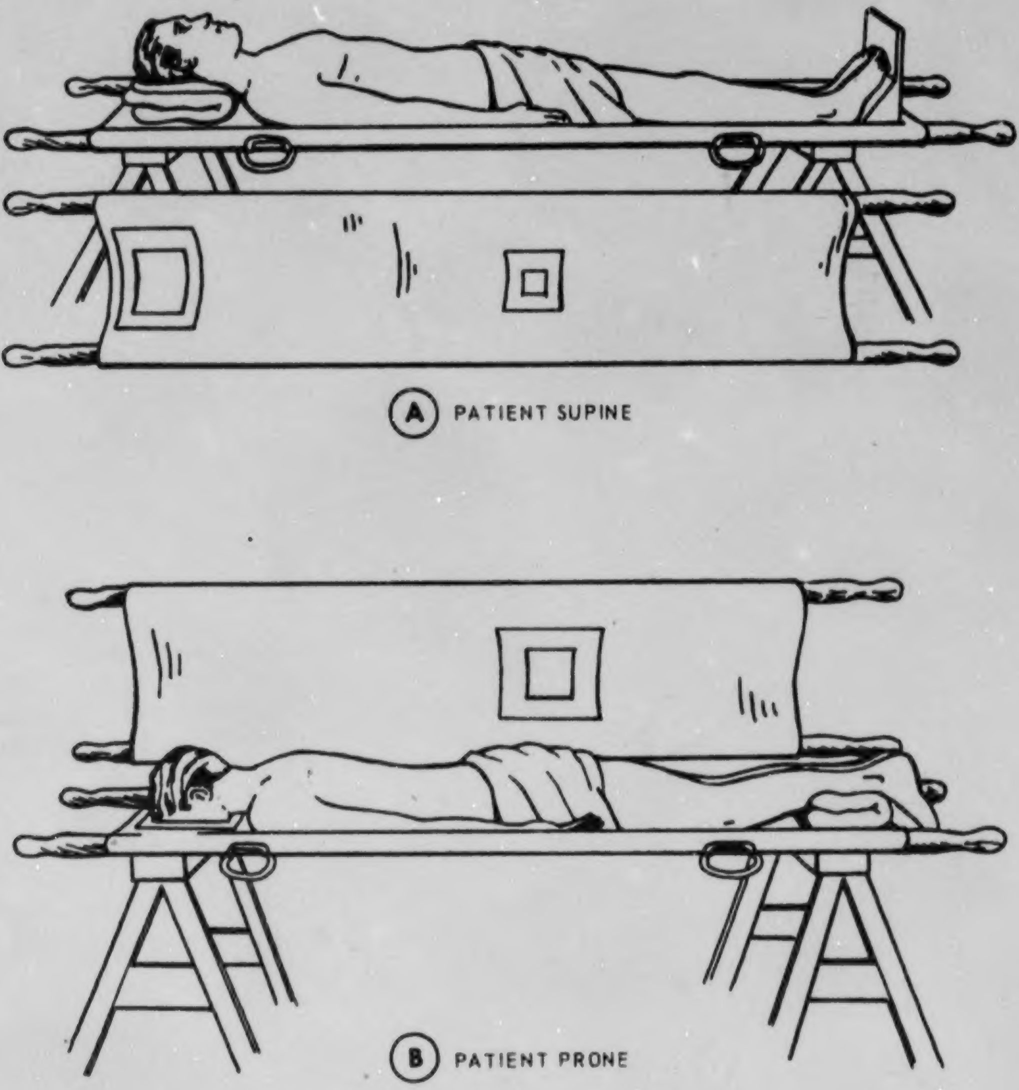


Figure 5-107. Improvised field litter frames.

TO TRANSFER THE PATIENT TO THE LITTER FRAME

1. Keep the patient supine on the original litter on which he has been transported to the medical treatment facility—do not attempt to move the patient from this litter until the improvised turning frame has been prepared.
2. Elevate the litter (with the patient lying on it) on a pair of sturdy boxes—one at the head and one at the foot of the litter—or on a pair of sawhorses. The boxes or sawhorses provide steadier base than the field litter brackets.
3. While the patient is supine, slit all clothing along seams and expose the anterior body surface. Use a towel drape over genitalia.
4. Place the patient's arms in extension, with fingers slightly under each thigh. If pillows are available, place two of them crosswise over his legs from knees to ankles. If pillows are not available, use extra folded blankets. This leg padding keeps the limbs from sliding when the frame is turned.
5. Place the prepared anterior frame gently over the patient, alining face and perineal opening to the patient.
6. Strap the anterior frame and the original transport litter together, sandwiching the patient between them. Apply the straps snugly and securely at chest and knee level.
7. Tell the patient that you intend to turn him so

d. General Rules for Collection of Specimens—The "Nine Rights."

(1) The right specimen from

(2) The right patient, collected in

(3) The right manner, at

(4) The right time, into

(5) The right container, in

(6) The right amount, and with

(7) The right label, is taken to

(8) The right place in the laboratory, and handed to

(9) The right person.

e. General Precautions in Collecting and Handling Specimens.

(1) Wash hands before and after touching specimens and used specimen containers.

(2) When a sterile specimen is required, collect it in a sterile container with sterile technique.

(3) Collect the specimen in the container provided by the laboratory. These containers are sterile when so required and, even when not sterile, are chemically clean.

(4) In collecting infectious material (*for example*, from a patient in Isolation), observe the following precautions to make it possible for all persons who must handle the specimen to protect themselves from contamination:

- Keep the outside of the container free from any infectious material.
- Attach to the container an identifying label

with the statement "infectious material" clearly recorded.

- Place the labeled container, securely stoppered, into a clean paper or plastic bag.
- Attach the laboratory request form (SF 514-series) to the outer surface of the bag with a paper clip or staple.

f. Use of Standard Forms (Laboratory Reports). Requests for laboratory examination of specimens are initiated by the medical officer. An appropriate form of the SF 514-series (of which there are many), properly filled out and signed by the medical officer or his representative, is submitted to the laboratory in duplicate. On completion of the test requested, laboratory personnel record the result in the appropriate space on the form. The original copy, whether patient is hospitalized or is an outpatient, is returned to the office, or agency, of origin where it is filed with the patient's clinical record. The duplicate copy is retained in the laboratory office files. Sample copies of representative forms with the completed laboratory report are shown in figure 5-108. The medical specialist should become familiar with the numerous SF 514 forms, their titles and uses, by reviewing the blank forms available as basic ward or clinic equipment and discussing entries with his medical officer or nursing team leader. He may often be responsible for completing some of the information required and forwarding the proper request form to the laboratory. In general, the medical officer is responsible for providing clinical data and designation of the examination required, and clerical or nursing personnel complete the other initiating entries. The medical specialist should:

(1) Refer to the schedule published by the laboratory to show the days and hours during which requests for various tests should be submitted. Exception to the published schedule is made in an emergency. However, it is customary for the laboratory to stipulate that an emergency request be marked "Emergency" and signed by the doctor requesting the examination.

(2) If the test specimen is to be obtained by laboratory personnel at the patient's bedside, send the request to the laboratory one working day in advance of the day that the particular test is scheduled, except for emergency requests which receive immediate attention.

(3) If the patient is ambulatory and the test specimen is to be obtained in the laboratory, send the request with the patient to the laboratory during the scheduled period for the particular test.

NOTE

Be sure that the patient understands where to report, what time to report, and how to get there.

(4) Any time that the test specimen is obtained by the medical officer or ward personnel, send the request with the specimen to the laboratory. Attach an identifying label to the container showing the patient's name, register number, ward, date, and type of specimen, in addition to submitting the appropriate laboratory request slip.

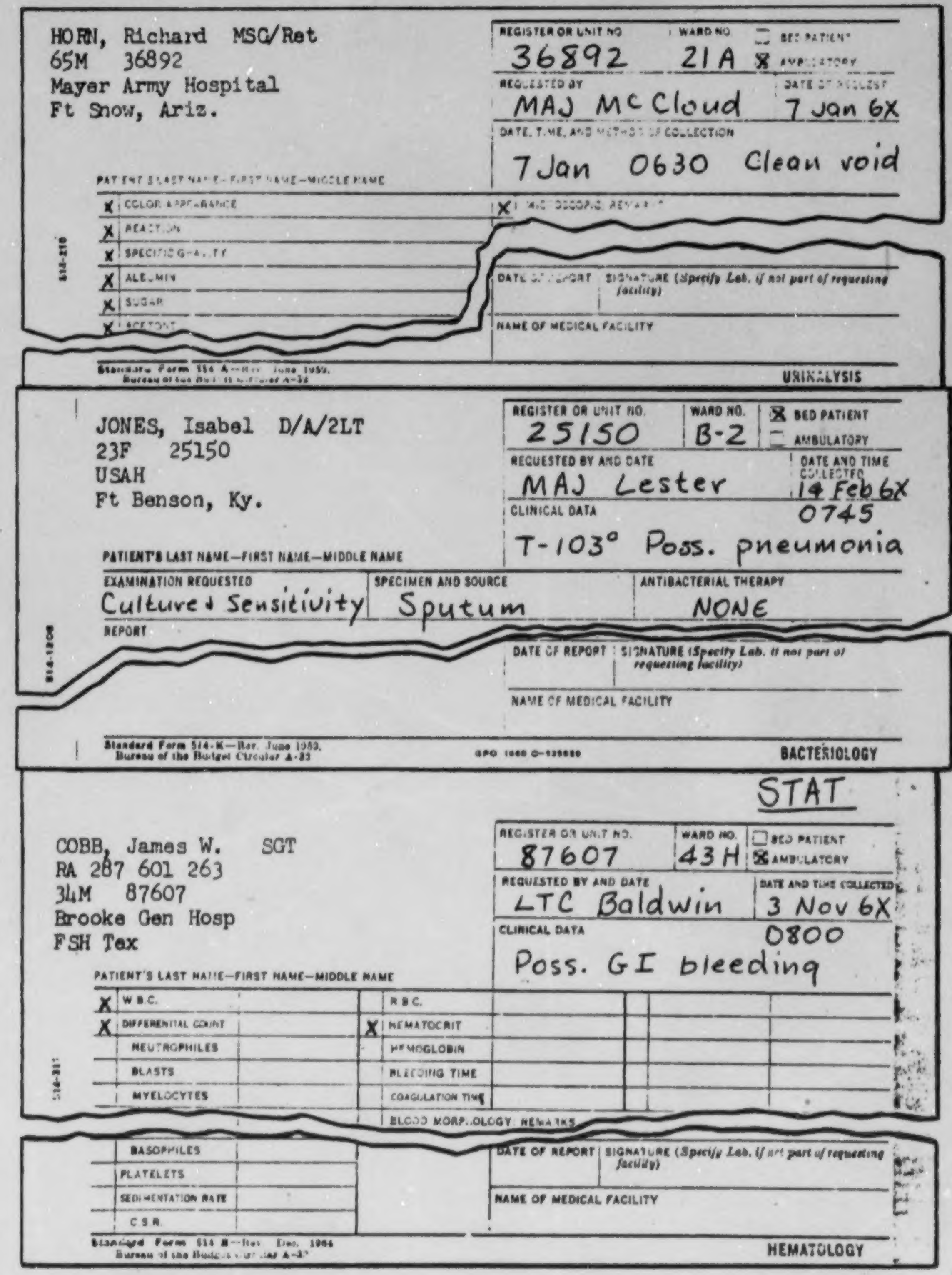
(5) Safeguard the reports sent back to the ward. It is customary for the ward officer to initial the test report to indicate that he has seen it, and it is then attached to SF 514 (Clinical Record —Laboratory Report) in the patient's clinical record.

NOTE

Always verify identification when attaching reports to the record (this duty may be assigned to a ward clerk or to nursing personnel) as mistakes in filing can occur.

g. Use of Standard Forms (Radiographic Reports). Requests for radiographic examination of a patient are initiated by the medical officer. SF 519A (Clinical Record—Radiographic Reports), properly filled out and signed by the medical officer requesting the examination, is submitted to the X-ray clinic in duplicate. As a general rule, requests for examination of hospitalized patients, except emergencies, are forwarded to the X-ray clinic, and the patient is sent for examination upon call. Requests for examination of out-patients usually accompany the patient. When the report of the X-ray examination has been entered on SF 519A, the original is returned to the requesting agency where it is filed with the patient's clinical record (by attaching the form to SF 519. The duplicate copy is filed in the X-ray clinic.

h. Diagnostic and Specimen Collecting Procedures. Some selected procedures commonly performed in AMEDD treatment facilities and not included elsewhere in this manual are outlined in table 5-8. All procedures listed should be checked with local station orders. When using the table, refer also to the general instructions in *a* above.



HORN, Richard MSC/Ret
65M 36892
Mayer Army Hospital
Ft Snow, Ariz.

PATIENT'S LAST NAME—FIRST NAME—MIDDLE NAME

REGISTER OR UNIT NO: 36892
WARD NO: 21A
☐ BED PATIENT
☒ AMBULATORY
REQUESTED BY: MAJ McCloud
DATE OF REQUEST: 7 Jan 6X
DATE, TIME, AND METHOD OF COLLECTION: 7 Jan 0630 Clean void

☒ COLOR APPEARANCE
☒ REACTION
☒ SPECIFIC GRAVITY
☒ ALBUMIN
☒ SUGAR
☒ ACETONE
☒ MICROSCOPIC REMARKS

DATE OF REPORT
SIGNATURE (*Specify Lab. if not part of requesting facility*)
NAME OF MEDICAL FACILITY

Standard Form 514 A—Rev. June 1959.
Bureau of the Budget Circular A-32

URINALYSIS

JONES, Isabel D/A/2LT
23F 25150
USAH
Ft Benson, Ky.

PATIENT'S LAST NAME—FIRST NAME—MIDDLE NAME

REGISTER OR UNIT NO.: 25150
WARD NO.: B-2
☒ BED PATIENT
☐ AMBULATORY
REQUESTED BY AND DATE: MAJ Lester
DATE AND TIME COLLECTED: 14 Feb 6X 0745
CLINICAL DATA: T-103° Poss. pneumonia
EXAMINATION REQUESTED: Culture + Sensitivity
SPECIMEN AND SOURCE: Sputum
ANTIBACTERIAL THERAPY: NONE
REPORT

DATE OF REPORT
SIGNATURE (*Specify Lab. if not part of requesting facility*)
NAME OF MEDICAL FACILITY

Standard Form 514-K—Rev. June 1959.
Bureau of the Budget Circular A-32

GPO 1960 O-[illegible]

BACTERIOLOGY

STAT

COBB, James W. SGT
RA 287 601 263
34M 87607
Brooke Gen Hosp
FSH Tex

PATIENT'S LAST NAME—FIRST NAME—MIDDLE NAME

REGISTER OR UNIT NO.: 87607
WARD NO.: 43H
☐ BED PATIENT
☒ AMBULATORY
REQUESTED BY AND DATE: LTC Baldwin
DATE AND TIME COLLECTED: 3 Nov 6X 0800
CLINICAL DATA: Poss. GI bleeding

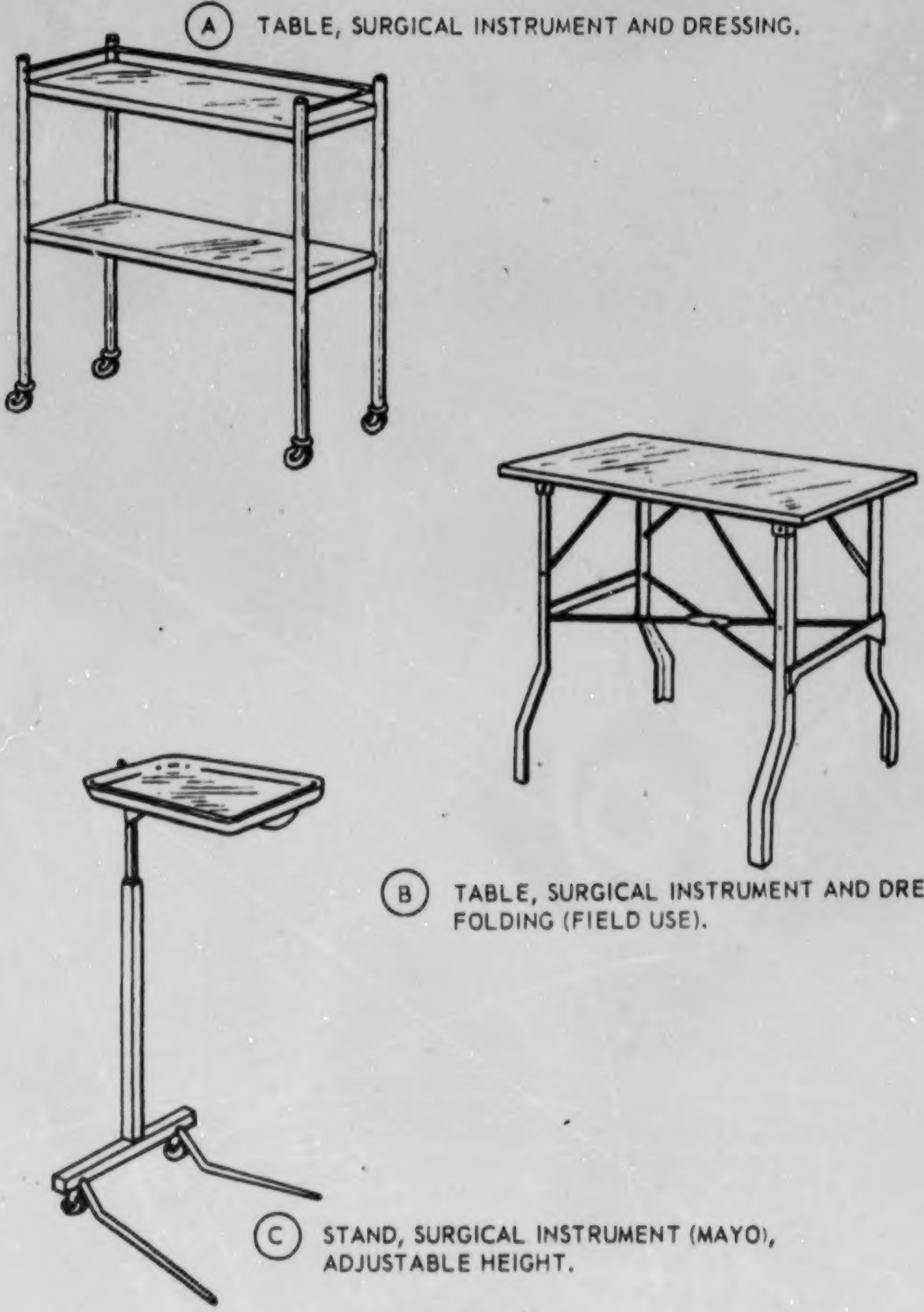
X	W.B.C.			R.B.C.	
X	DIFFERENTIAL COUNT		X	HEMATOCRIT	
	NEUTROPHILES			HEMOGLOBIN	
	BLASTS			BLEEDING TIME	
	MYELOCYTES			COAGULATION TIME	
				BLOOD MORPHOLOGY REMARKS	
	BASOPHILES				
	PLATELETS				
	SEDIMENTATION RATE				
	C.S.R.				

DATE OF REPORT
SIGNATURE (*Specify Lab. if not part of requesting facility*)
NAME OF MEDICAL FACILITY

Standard Form 514 B—Rev. Dec. 1964
Bureau of the Budget Circular A-32

HEMATOLOGY

Figure 5-108. Sample completed copies of representative forms of the SF 514-series.



(A) TABLE, SURGICAL INSTRUMENT AND DRESSING.

(B) TABLE, SURGICAL INSTRUMENT AND DRESSING, FOLDING (FIELD USE).

(C) STAND, SURGICAL INSTRUMENT (MAYO), ADJUSTABLE HEIGHT.

Figure 5-109. Surgical dressing or instrument tables or stands.

NOTE

Some procedures are so complicated that tables or stands may be required to provide an adequate surface area on which to set up the sterile field. Figure 5-109 illustrates two of these tables and one stand usually referred to as the Mayo stand.

Table 5-8. Assisting With Diagnostic Tests and Collection of Specimens

Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
A. URINE				
1. Single specimen (routine voided).	Urine specimen bottle; specimen bottle cap; urinal or bedpan p.r.n. SF 514A.	1. Have patient void directly into urine specimen bottle if possible. 2. Collect 120 ml (4 oz.) of freshly voided urine from clean urinal or bedpan p.r.n. 3. Do not collect specimen contaminated with feces. 4. If female patient, ask doctor if specimen is acceptable during menstrual period.	1. Indicate "Routine voided" on SF 514A for method of collection. 2. Instruct ambulatory patient to void directly into bottle, to cap bottle, and to leave it at designated location, in utility room or at bedside. 3. Secure request slip to bottle with rubber band. 4. Send to laboratory as soon as possible, within hours scheduled by laboratory for accepting routine specimens.	1. Send specimen to laboratory as soon as possible—urine decomposes rapidly when left at room temperature and the most valid testing is done with a fresh specimen. 2. For routine admission specimen, obtain first voided specimen the morning after admission. Random specimens (those obtained at any time) are acceptable when laboratory schedule permits.
2. Single specimen (sterile)...	Catheterization setup; sterile screw-top collection bottle; SF 514A; label.	1. Catheterize per doctor's order. 2. Collect urine directly from catheter.	1. Indicate "catheterized" in space on SF 514A for method of collection. 2. Send specimen to laboratory stat.	Sterile specimens are ordered for bacteriologic testing; therefore, aseptic technique is essential.
3. Single specimen (clean-catch).	Sterile articles: gloves, cotton balls, water, solution basin, Kelly forceps, surgical soap solution, wide-mouth bottle with screwcap. Clean articles: Commode or emesis basin, bedpan for female patient. SF 514A; label; water; and drinking glass.	1. Hydrate patient by giving 2 glasses of water about 1 hour before attempting obtain specimen. 2. Set up sterile field in screened cubicle or screened area in treatment room. 3. Male patient: Cleanse glans penis as for catheterization. Instruct patient to start forceful voiding into commode or basin. Collect midstream specimen directly into bottle, holding bottle at bottom and away from contact with penis. Collect at least 60 ml. 4. Female patient: Place patient on bedpan in dorsal recumbent position. Cleanse vulva and meatus as for catheterization. While holding labia apart with gloved hand, instruct patient to start voiding forcefully into bedpan. Collect midsteam specimen directly into bottle, holding bottle at bottom and	1. Indicate "clean-catch" in space provided on SF 514A. 2. Explain reason for method to patient—he is expected to void under unaccustomed circumstances and will be under some stress. Expect him to be embarrassed, but try to reassure him. Provide maximum privacy. 3. Send specimen to laboratory stat.	Clean-catch technique is used to obtain specimen for bacteriologic study without subjecting patient to hazards of catheterization. If physically able and capable of following instructions, the patient may obtain own clean catch specimen. Thorough and explicit instructions are necessary. The patient must be able to cooperate fully and void forcefully on demand for specimen collections.

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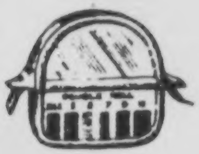
Table 5-8. Assisting With Diagnostic Tests and Collection of Specimens—Continued

Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
		away from any contact with vulva or perineum.		
4. 24-hour specimen	Collection bottle (gallon size or other large capacity); funnel, if collection bottle has narrow neck; label or shipping tag; urinal or bedpan; SF 514A; worksheet with date and patient's name; pencil.	1. Usual diet and fluid intake is continued unless otherwise ordered. 2. At a specific time on the first day, the patient voids and this specimen is discarded. The exact time of voiding is noted and written on the worksheet (for example, 0730). 3. All other specimens are carefully collected and poured into the container during the next 24 hours. 4. Exactly 24 hours after the initial voiding (the specimen which was discarded), the final specimen is collected (*for example,* 0730 hours on the second day).	1. Indicate "24-hour collection" in space provided on SF 514A. 2. Attach label or tag to collection bottle. 3. Instruct patient that all urine must be saved. Every voiding should be accounted for on the worksheet during the specified 24 hours. An ambulatory patient must use a urinal (bedpan for female patients) and notify the specialist immediately after each voiding. 4. After final specimen is collected, send entire amount to laboratory.	1. The beginning of a 24-hour urine collection test is the exact time the patient voids and empties his bladder for the initial discard specimen. All subsequent specimens are saved. 2. Refrigerate collection bottle if a refrigerator for storage of specimens is available. 3. Follow laboratory instructions for use of preservative—any chemical used must be one that will not interfere with required testing. Indicate on label the type used (Toluene and Formalin are examples of urine preservatives).
5. Two-glass specimen (midstream collection).	2 urine specimen bottles, with caps: 2 labels: No. 1, and No. 2 with name, date, hour.	1. Patient collects first voiding in the morning in 2 parts. 2. He must start to void directly into container No. 1, and then complete the voiding in container No. 2. 3. Both containers are capped and saved for examination by doctor.	1. Instruct patient. 2. Label containers. 3. Supervise p.r.n. to insure that initial urine is collected directly into glass labeled No. 1 and that midstream (while voiding continues) and final urine voided is collected into glass No. 2.	Turbidity (cloudiness) in container No. 1 indicates anterior urethritis. Turbidity in both specimens indicates anterior and posterior urethritis.
6. Fractional specimens	4 or more labeled containers; urinal or bedpan; worksheet and pencil; 4 or more labels; SF 514A, p.r.n.	1. Collect all urine voided during a specified time interval of a 24-hour period, *for example:* 0700–1100 hours 1100–1600 hours 1600–2100 hours 2100–0700 hours 2. Pour all urine voided during specified interval into labeled container. 3. In performing a test with a fractional collection specimen, mix the amount in the container thoroughly before removing any portion of it to obtain a uniform sample.	1. Label required number of chemically clean containers with date, time interval, and patient's name. 2. Prepare SF 514A if specimens are to be sent to laboratory. 3. If specimens are to be tested on the ward, find out: (a) if fractional specimen is to be discarded after a sample is taken for testing; (b) if collected specimens are to be sent to the laboratory as a 4-part specimen; or (c) if specimens are to be combined in one bottle.	Fractional urine collection is usually ordered as part of the medical management of a patient with diabetes mellitus, to find out what time of day excretion of sugar in the urine (glycosuria) is heaviest. This type of testing aids in regulation of drug (insulin or oral agents) and diet.

7. **Reagent tests**	Reagent, in form of tablet, paper strip, or solution; instructions for use of specific reagent and color chart provided by manufacturer of specific reagent; urine specimen, freshly voided; paper and pencil; test tubes, medicine droppers p.r.n.; test tube brush, for cleaning glassware used.	1. Tablets—do not handle with fingers; transfer in cap from their container to test area. Keep container tightly closed. 2. Test strips. Do not touch end to be dipped in urine with fingers. Protect from direct light, moisture, and heat when stored. 3. Solution. Do not contaminate dropper used to measure test solution. 4. Keep glassware used in testing clean—wash, using a brush and hot soapy water, rinse thoroughly, and air dry.	1. Reagent tests are based on characteristic color changes due to chemical reactions. Several of these tests are done by nursing personnel on the ward. Instructions of the manufacturer must be followed exactly—any deviation will invalidate the test. 2. Store reagents to prevent deterioration. 3. Safeguard (but display prominently in testing area) color charts and instructions. No guesswork is permissible.	1. Request verification by competent individual of any reagent test result that seems questionable. 2. Save unused specimen sample until test results are verified. 3. If patient is taught to do test in preparation for home care, qualified nursing personnel must assist and supervise the patient. 4. Use care in handling all reagents—most are poisonous, and some are strong caustics.
a. Clinitest (sugar)	Specimen of urine—freshly voided or uniform sample from fractional collection; test tube; medicine dropper; clinitest reagent tablet*; clinitest color chart. *Use only if it has light blue, mottled appearance. If dark blue, it has deteriorated and must be discarded.	1. Using medicine dropper, place 10 drops of water in clean, dry test tube. 2. Using medicine dropper, add 5 drops of urine and mix urine and water. 3. Drop 1 tablet into tube. Do not shake the tube while chemical reaction (bubbling and heat) is taking place. Hold tube by top edge, not at the bottom. 4. Wait 15 seconds after bubbling stops. 5. Hold tube next to color chart and compare.	1. Collect specimen as for single specimen 20 to 30 minutes before a meal, or as ordered (*for example*, a fractional specimen). 2. May do test on ward, in utility room. 3. Report results verbally and record on DD 728 (Nursing Notes) and if required, on DA 8-55 (Diabetic Record). 4. Discard test tube contents carefully in sink and rinse down drain with cold water. 5. Wash test tube, using hot soapy water and test tube brush. Rinse thoroughly with water and invert tube to air dry.	Color reactions described as— Negative percent—Blue Trace ¼ percent—Clear green Positive ½ percent (+)—Green/Yellow Positive ¾ percent (++)—Olive green Positive 1 percent (+++)—yellow Positive 2 percent (++++)—Orange/Red Over 2 percent causes rapid color changes to green, tan, orange, and finally to a dark shade of greenish brown, which should not be confused with any color on the chart. Sometimes, when the percentage amount is very large, this final change takes place before the 15-second wait is over—thus, the necessity of watching the reaction continuously.
b. Clinistix or testape (sugar).	Specimen of freshly voided urine or uniform sample from fractional collection; reagent strip; color chart.	1. Dip end of tape not touched by fingers into urine and remove immersed end. 2. Wait 1 minute, then compare darkest area to color chart.	Same as steps 1, 2, and 3 in a, above.	Color reactions described as— Negative—Yellow Positive (+)—Light green Positive (++)—Medium green Positive (+++)—Dark green Positive (++++)—Darkest green If tape color is (+++), wait one

Table 5–8. *Assisting With Diagnostic Tests and Collection of Specimens*—Continued

Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
				additional minute and make final color comparison.
c. Acetest (acetone)	Specimen of freshly voided urine, or uniform sample of fractional collection; medicine dropper; filter paper or tissue; color chart; Acetest tablet.	1. Place paper on dry surface. 2. Place tablet on paper. 3. Place 2 drops of urine on the tablet. 4. Wait 30 seconds. Compare tablet color to color chart Negative (normal reaction)—cream color Trace—lavender Moderate to strongly positive—purple.	Same as steps 1, 2, and 3 in a above.	Test for acetone is usually done when urine has tested strongly positive for sugar. Positive test for acetone (acetonuria) is also commonly present in acute gastrointestinal disorders and fever conditions when there has been vomiting, dehydration, and limited intake of carbohydrates.
d. Sulkowitch (calcium)	Specimen of freshly voided urine; test tube; Sulkowitch reagent solution (from laboratory); indicator tape for pH (acid-alkaline) reaction.	1. Place 5 ml. of urine in test tube. Test with indicator paper. If not an acid reaction, do not proceed. If acid reaction, add 5 ml. of reagent. 2. Mix and let stand for 5 minutes. 3. Hold tube against dark background and observe for a white cloudy appearance. *Note.* A normal result is a definite cloudiness through which newspaper print may be read.	1. Collect urine as for a single random specimen (or a 24-hour collection may be ordered). Test may be done on the ward if voided urine tests acid in reaction; if urine is neutral or alkaline, laboratory technician should conduct test. 2. Follow doctor's instructions for recording reactions, using SF 514A, and place this report on his desk.	The patient should be on a low calcium diet (*for example*, a milk-free diet) for 72 hours before collection of the specimen to prevent undue dietary influence on the examination. Strongly positive (white, chalky precipitate) reaction indicates high calcium excretion associated with hyperparathyroidism. Absence of cloudiness (negative) indicates abnormally low excretion, associated with hyperparathyroidism and possibly tetany.
e. pH Reaction 	Freshly voided specimen; indicator paper strip and dispenser; color chart.	1. Dip tip of strip* untouched by fingertips into specimen. 2. Compare resulting color with standard chart provided with item used. *If litmus paper strip is used, the color reaction is red if urine is acid and blue if urine is alkaline.	1. Collect specimen as for single random specimen. 2. Follow instructions for testing on ward. 3. Follow instructions for discarding test specimen or sending it to laboratory with SF 514A.	The usual reaction in freshly voided urine is acid (about pH 6). As urine stands at room temperature, it becomes increasingly alkaline (pH above 7). Diet, drugs, pathologic conditions, and fluid intake influence the reaction. In treating bacterial infections of the kidneys and bladder, the doctor may prescribe diet and drugs that will keep the urine either acid or alkaline, and frequent testing of the urine may be required.

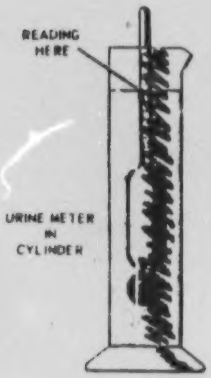
8. Specific gravity . . . .  	**Urinometer and urine cylinder (a 2-part set); freshly voided specimen.** *Note.* 2 standard items are available, one a "microset" requiring only about 16 ml. of urine, another, a larger type (as illustrated), requiring at least 50 ml. of urine. A nonstandard research item may be used in special treatment units, and this requires only a drop or 2 of urine.	1. Allow freshly voided specimen to cool to room temperature. 2. Place cylinder of urinometer set on a level surface. Fill cylinder ¾ full with urine. 3. Hold urinometer at the top of the stem and place it in the specimen in the cylinder, giving the urinometer a spin so that it rotates free of the sides. *Note.* There must be sufficient urine to float the urinometer; its bottom must not touch the bottom of the cylinder. 4. When urinometer stops spinning, read value from the bottom of the meniscus (fig. 4-2).	1. When test is done on the ward, check the urinometer set periodically, using distilled water. The reading should be 1.000 at the temperature specified on the instrument. If these conditions cannot be met, do not attempt to do the test and send the specimen to the laboratory. 2. Always squat down and read specific gravity valve at eye level—line of sight is where the meniscus crosses the scale on the urinometer.	1. The specific gravity depends upon the amount of solid material in solution and the volume of the specimen. Generally speaking, the more concentrated (low volume), the higher the specific gravity; the more dilute (high volume), the lower the specific gravity. Normal random specimens have a range of 1.003 to 1.030. 2. The scale on the urinometer is in relation to the specific gravity of distilled water—(1.000). Calibration is in units of 0.001, from 1.000 at the top of the scale to 1.060 at the bottom.
B. FECES (STOOL SPECIMENS): 1. Single Specimen (routine, for occult blood, etc).	Wide-mouth container with tight-fitting cover; clean bedpan p.r.n., tongue blade; SF 514G.	1. If possible, have patient pass stool directly into specimen box. 2. If bedpan is used, instruct patient not to void into pan from which stool is to be collected. 3. Collect stool from pan by picking up a portion at least 1 inch in size with tongue blade and place stool in clean dry container. 4. Send specimen and SF 514G to laboratory stat.	1. Instruct ambulatory patient and provide him with specimen container. Also show patient how to place bedpan on toilet commode if pan must be used. 2. Keep outside of container clean.	Feces specimens should not be contaminated with water or urine. The container is not sterile but should be clean. Feces specimen examination is an important public health (preventive medicine) measure in physical examination of food handlers to detect carriers of typhoid bacilli and intestinal parasites. Diagnostic tests include observation for pus, blood and bacteria, as well as chemical reagent tests for foods, such as fats and starches in metabolic diseases.
2. Ova and parasites	3 wide-mouth containers with tight-fitting covers; 3 undated requests; 3 labels; SF 514G.	1. Label 3 containers, No. 1, No. 2, and No. 3. 2. Collect 1 specimen on 3 successive days. 3. Write in date of collection on SF 514G when specimen collected, and number accordingly.	1. Follow steps 1 and 2 above. 2. Remind patient daily of specimen requirement. 3. Record each collection by number on DD 728 (Nursing Notes).	In submitting specimens to the laboratory a notation should be made on the Request Form, SF 514G, if the patient has received antibiotic or chemotherapy within 2 weeks before the examination. *Note.* Do not collect for parasite studies for 7 to 10 days following radiology barium studies.

Table 5-8. Assisting With Diagnostic Tests and Collection of Specimens—Continued

Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
3. Amoeba	Glass or plastic, wide-mouth container, basin of warm water.	1. Collect entire specimen. 2. Keep warm by placing covered container in basin of warm water.	1. Check laboratory schedule before obtaining specimen. 2. Take to laboratory stat, since examination is for detection of live organisms.	
4. Pinworm (Enterobiasis specimen).	Transparent plastic tape; glass slide; SF 514G.	1. Press sticky side of transparent tape over anus and perineal folds. 2. Remove tape and press sticky side down on surface of clean, dry, glass slide. 3. Send slide and request slip to laboratory.	1. Female personnel obtain specimens from female patient. If patient is ambulatory, must have female chaperone when sent to laboratory for specimen collection. 2. Check local directive—may require early morning collection before any bath or toilet hygiene and before defecation.	Unlike other parasite specimen collection procedure, stool specimen not required. (Female worm migrates outside anus to deposit eggs.) *Note.* When enterobiasis disease (pinworm disease) is present: insist on rigid toilet hygiene: hand washing, scrub toilet seat daily, change underclothing and bed linen daily, remind patient not to scratch itching anal area.
C. SPUTUM:				
1. Single specimen	Plastic or glass, screw-topped container; SF Form 514E; label; clean paper bag. *Note.* Do not use cardboard folded sputum cup for specimen collection.	1. Collect, if possible, first a.m. coughed-up specimen. 2. Have patient first rinse mouth with water and spit out all fluid and saliva. 3. Then assist patient to give a "deep down" cough to raise sputum from bronchi. 4. Instruct patient to expectorate coughed-up sputum directly into collection jar, without touching lips to jar. Try to obtain at least 5 ml. of sputum (about 1 teaspoonful). 5. Cap jar securely and remove it from bedside stat.	1. Write on SF 514E the type of examination required; for example, specify "Pneumonia" or "For Tbc" (Tuberculosis). Laboratory examination methods differ, depending on type of organism to be identified. 2. Give mouth care after obtaining specimen. 3. Handle as for infectious material. Inclose in paper bag. 4. Send to laboratory stat.	Handle all sputum specimens as infectious material. Single specimen collection is usually ordered for identification of organisms in pneumonia, before start of antibiotic or chemotherapy. "Series specimen" usually 3 successive specimens obtained on 3 successive days.
2. 24-hour series (3-day specimen).	3 plastic or glass, screw-topped jars; 3 identification labels; 3 SF 514E.	1. Check local order as to whether single morning specimen for 3 successive days is to be collected, or if all sputum in one 24-hour period is to be collected, on 3 successive days. 2. Collect only sputum coughed up from bronchi, not saliva or other mouth and throat fluids. 3. If single specimen, cap jar and remove from bedside stat.	1. Follow local order for specimen instructions—3-day specimen collection is often for Tbc, requiring special handling. 2. Number each specimen container, No. 1, No. 2, No. 3. Each numbered container is sent to the laboratory with its accompanying Request Slip, SF 514E, dated at time specimen was obtained. 3. Handle as for infectious material.	If one or two specimens are obtained, but it is impossible to obtain third, notify medical officer and notify microbiology section of laboratory. Medical officer may order gastric washing, and laboratory technician may proceed with testing of specimens obtained.

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		4. If 24-hour specimen, cover unsightly jar with tissue held in place by elastic band. Remind patient not to touch top of jar with lips or fingers. Show how to remove and replace cover without contamination.		
3. Gastric washing (aspiration for tubercle bacilli).	Container from microbiology section of laboratory; Levin tube (gastic intubation) tray; Luer syringe, 30 ml, with metal adapter tip; "NPO" bed sign; sterile saline p.r.n.	1. Disposable plastic Levin tube preferably used as precautionary measure in suspected tuberculosis. 2. Lubricate tube with water only. 3. Intubate as for gastric intubation. 4. Aspirate entire stomach contents and place in specimen container. *NOTE*: Check local laboratory policy concerning use of sterile saline solution for "washing" stomach to obtain contents.	1. Instruct patient on preceding evening—nothing by mouth after 2200 hours. 2. Early morning (on awakening) aspiration of stomach contents may be ordered, with nurse or qualified medical specialist performing intubation and obtaining specimen. 3. Handle specimen as "infectious material." 4. Remove and discard plastic Levin tube. 5. Soak all reusable equipment in Wescodyne solution, 150 ppm., before handling for return to CMS.	Gastric washing procedure used to obtain specimen for tubercle bacilli studies when little or no sputum can be obtained. (Fasting stomach in early morning contains sputum swallowed in small amounts overnight.) Check ward policy procedure for gown and mask use in obtaining gastric wash specimen.
D. VOMITUS:	Clean wide-mouth container with lid; label; SF 514M (Miscellaneous).	1. Transfer vomitus from basin or other container into which patient has vomited to clean specimen container. Avoid contamination. 2. Collect all vomitus available. 3. Cover container and affix label. Be sure time of vomiting is noted. 4. Send to laboratory with request form.	1. If authorized to fill in data on request form, state what examination is requested; *for example* "occult blood." If poisoning is suspected, data should be entered by medical officer. 2. Take or send specimen immediately to the laboratory, calling its delivery to the attention of the laboratory technician. 3. Record on DD Form 640, (Nursing Notes).	Vomitus specimens usually sent to chemistry section of laboratory. *Note.* It is usually advisable to save all vomitus for inspection by medical officer, who will then order required examination. Pending orders of medical officer, remove utensil from patient's bedside, cover it with a clean paper towel, and label "Do Not Discard."
E. SMEARS AND CULTURES: 1. Smear..................	Cotton-tipped applicator, sterile; glass slides, sterile; SF 514K (Bacteriology); rubber bands—2; label.	1. Wrap one rubber band around one end of slide, holding slide by side margins to avoid fingerprints and contamination of flat surface. 2. With sterile applicator, pick	1. When directed by the medical officer to obtain a specimen for bacteriological studies, use aseptic technique to avoid contamination of specimen, self, and surroundings.	Identification of pathogenic organisms is the primary concern when smear and culture specimens are ordered. The prepared smear is stained in the laboratory and then

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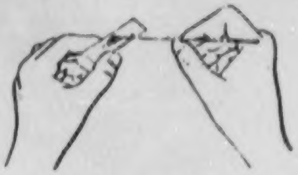
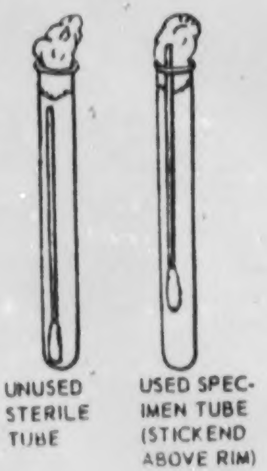
Table 5-8. Assisting With Diagnostic Tests and Collection of Specimens—Continued

Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
		up small sample of moist discharge. 3. Spread discharge lightly on center of slide by rolling applicator tip across center (as illustrated) 4. Set slide down, smear side up, to air dry. 5. Repeat smear preparation on second slide (steps 3 and 4). 6. Place both slides together, smear sides inside. *Note.* The 2 prepared slides are separated by the previously prepared band wrapping, which helps to protect smear surfaces. A paper clip or a portion of the application stick may be substituted for the rubber band. 7. Fasten slides together with second rubber band. 8. Stick label on end away from smear area.	2. Enter complete data on SF 514K indicating site from which specimen is obtained; e.g., "Pus, wound, left knee." 3. If patient is on antibiotic therapy, include this information on SF 514K. 4. Send specimen with least possible delay to laboratory.	examined microscopically for bacteria. A thin, even distribution of material on the slides is required. 
2. Culture	Cotton-tipped applicator, sterile; sterile culture tube, cotton stoppered; SF 514K (Bacteriology); label. *Note.* For special cultures, obtain culture tube with culture media (broth) from laboratory.	1. Remove cotton stopper from culture tube, holding stopper between 2d and 3d fingers. Do not allow insertion end to touch anything. 2. Remove applicator by tipping tube, grasping wood end, and not allowing swab end to touch rim of tube. 3. Wipe swab end over surface to be cultured. 4. Reinsert applicator in tube up to where stick is held in fingers. 5. Replace cotton stopper in tube to plug opening and hold end of stick above rim of tube (as illustrated). 6. Stick label on rim end of tube.	Same as step 1 through 4 above. *Note.* When culture media tube is used, the swab should be moistened with a minimal amount of media fluid after the specimen is obtained.	The culture media prevents drying of the swab specimen.  UNUSED STERILE TUBE USED SPECIMEN TUBE (STICK END ABOVE RIM)

8. Throat culture.	1. Collection tube with swab, sterile; tongue blade, clean; SF 514K; label. 2. Obtain tube containing culture media p.r.n. from bacteriology section of laboratory.	1. Face patient toward light and tell him to open mouth wide. 2. Hold tongue blade in left hand. Depress tongue, scooping it forward with blade to expose back surface of throat. 3. Holding swab in right hand, pass swab gently over throat surface. Do not touch swab to tongue, cheek, teeth, or lips. 4. Replace swab in tube without touching it to rim of tube. Area of swab stick touched by fingers extends above tube rim. 5. Replace cotton plug.	1. Prepare identification label and SF 514K (Bacteriology) as directed. 2. Use aseptic technique in handling culture tube* and swab. 3. Break tongue blade and discard immediately after use. 4. Send labeled specimen to laboratory without delay. *Since both hands are in use to obtain throat specimen, an assistant may be required to hold stopper and tube to prevent their contamination. Instruct assistant before he handles equipment.	Swab specimen should be moist when received in laboratory. Follow local directive for using culture tube containing media, which may be a fluid or a semisolid substance.
F. COLLECTION OF BLOOD SPECIMENS: 1. General instructions	Laboratory equipment brought to ward by laboratory technician; ward blood or collection tray (or mobile cart), to include— *Sterile syringes: 30 10, 2 ml; *sterile needles; 2-inch; 20, 18 gage; sterile gauze sponges, dry; sterile gauze sponges, in skin germicide; transfer forceps (Hemostat) in jar, forceps (5 inch) containing germicide; emesis basin; hand towel with rubber or plastic protector; tourniquet; skin marking pencil; gummed labels; blood collecting tubes assorted, from laboratory. *Sterile disposable needles and syringes, when available. Otherwise, sterile equipment from CMS.	Use venipuncture technique unless otherwise instructed. Follow laboratory instructions for required amount and initial handling of blood specimen. Always use designated container for particular test desired. Transfer blood from syringe as follows: 1. Remove needle from syringe. 2. Flow blood gently down inside of blood collection tube without causing any foam. DO NOT SQUIRT BLOOD INTO TUBE. 3. Stopper tube securely. 4. If anticoagulant is used, rotate tube gently, but do not shake. 5. If clotted specimen is required (as for serology), do not rotate or agitate tube. Keep tube upright.	1. Study local directives to become familiar with different commonly performed tests which require collection of blood specimens. 2. Assist laboratory technician or medical officer as required. 3. Follow local SOP for daily checking, cleaning, and stocking of equipment maintained by ward (or clinic) for blood collection. Safeguard equipment to maintain required asepsis and economy in use of supplies. 4. Use aseptic technique when assisting with collection of blood specimens. 5. Follow all safety precautions when handling and disposing of needles, syringes, collecting tubes, etc., to prevent accidental puncture wounds or lacerations. 6. Prepare and instruct patient in accordance with local directives. 7. Send or take specimens to laboratory promptly. 8. If specimens must be held on the ward temporarily, check	1. Blood specimens for laboratory examination are usually collected by laboratory personnel. However, under conditions specified by local directive, blood specimen collection duties may be delegated to a clinical or medical specialist, at the direction and under the supervision of the ward, clinic, or dispensary medical officer. 2. In general, the clinical or medical specialist, when so assigned, will collect blood by venipuncture technique, since training in this technique is a requirement (AR 611-201) in preparation for duties performed under emergency and combat medical treatment conditions. 3. Should the duty assignment require collection of blood specimen by capillary puncture technique, refer to TM 8-227-1.

Table 5-8. Assisting With Diagnostic Tests and Collection of Specimens—Continued

Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
			with medical officer as to which specimens must not be refrigerated pending delivery to laboratory.	
2. Hematology specimens...	SF 514-B; Laboratory equipment brought by laboratory technician or ward equipment, if collection is made by medical officer or designated assistant (see 1 above).	1. Venous or capillary puncture, or both—depending upon test required, age and condition of the patient. If venipuncture, use anticoagulant collecting tube, as specified. 2. Non-fasting specimen, unless otherwise ordered.	1. Prepare request form as directed. *Note.* Usually, no special preparation of the patient is needed. 2. Assist with collection as directed. 3. Handle specimens with extreme care to avoid damage to blood. 4. Send or take to laboratory as soon as possible after collection.	1. Hematology tests are ordered to examine blood, its cellular components, and its morphology (form and structure). 2. SF 514-B lists examinations that may be requested. 3. Review information on transfer of blood from a collecting syringe to the specified collecting tube.
3. Chemistry specimens.....	SF 514-D or SF 514-P (Special Chemistry), or both; laboratory equipment brought by laboratory technician or ward equipment, if collection by medical officer or designated assistant, (see 1 above). Sign for patient's bed "Hold Breakfast."	1. Venipuncture, unless otherwise specified. 2. Anticoagulant collecting tube as specified. 3. Fasting specimen, unless otherwise ordered.	Prepare request form as directed For fastening specimen: (1) Instruct patient that no food is to be taken after evening meal on day prior to test. (Water only may be permitted up to midnight.) (2) Order delayed breakfast. (3) Place "Hold Breakfast" sign on patient's bed. (4) Obtain and serve meal promptly after specimen collection or test completed. (5) Do not permit patient to smoke. (6) Follow steps 3 and 4 in 2 above.	1. Chemistry tests are ordered to determine the concentration of specified chemical substances in the blood. 2. SF 514D lists examinations that may be requested. 3. Review information on transfer of blood from collecting syringe to the specified collecting tube.
4. Serology specimens......	1. SF 514C, S.T.S. (Serological Tests for Syphilis) or SF 514-Q (Immunology) or both. 2. Same as 2, above.	1. Venipuncture, unless otherwise specified. 2. Clotted blood specimen. 3. Nonfasting specimen, unless otherwise ordered.	Same as 2 above.	Serology tests are ordered to determine and identify the presence of antibodies. The several different tests are based on the fact that patients infected by disease-producing agents will develop antibodies specific for these agents.
5. Blood culture...........	According to local directive:	1. Venipuncture by medical	1. Review local directive for	Blood culture is ordered for

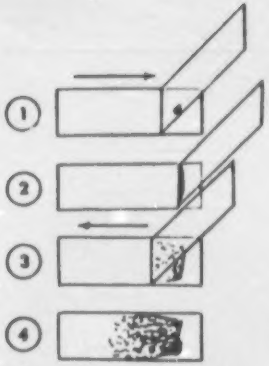
	*Laboratory equipment or ward equipment, to include special skin germicide; SF 514K, 2; labels, 2. *Equipment includes sterile flasks containing specified anticoagulant.	officer or laboratory technician using strict aseptic technique. 2. Blood inoculated immediately into each of 2 sterile flasks at bedside, or blood transferred from syringe to each of 2 sterile capped tubes containing anticoagulant for immediate transportation to laboratory.	blood culture procedure. 2. Assist medical officer or laboratory technician as required in obtaining venipuncture specimen and labeling containers. 3. Transport specimens according to explicit instructions to bacteriology section of laboratory. Call their delivery to the attention of the laboratory technician.	bacteriological studies. Blood culture specimens are usually ordered in conditions of fever of unknown origin (FUO), bacteremia, or septicemia and are obtained when the acutely ill patient is having a chill or at the height of fever. Therefore, the order by the medical officer for blood culture will usually indicate the exact conditions when the physician or laboratory technician must be notified immediately so that the blood specimen may be collected during the proper stage of the disease concerned.
6. Blood Smear (venipuncture technique). 	Glass slides venous blood (from syringe used to obtain blood culture specimen) Labels, 2.	"Spreader slide" technique: (as illustrated): 1. Place specimen slide on flat surface. 2. Transfer 1 drop of blood from needle tip to one extremity of specimen slide. 3. Place spreader slide on specimen slide at an angle of about 30 degrees from horizontal. 4. Move spreader slide toward drop of blood until contact is made with blood. (The blood will spread toward the sides of both slides.) 5. Push the spreader slide smoothly and lightly toward the opposite end of the specimen slide, drawing the blood into a film on the specimen slide. 6. To make a thin film, push the spreader slide quickly. To make a thick film, push the spreader slide slowly. 7. Allow prepared slide to air dry. Never blow on it to speed up drying. 8. Repeat steps 1 through 7, above, if a second slide is required.	1. Prepare smear by direction of medical officer. 2. Keep slides free of fingerprints before and after obtaining specimen. 3. Identify slides by affixing gummed label to extremity clear of specimen smear. Do not use skin-marking pencil unless directed to do so (a marking pencil may interfere with staining or fixative process).	Blood smears are usually made in conjunction with blood culture to detect presence of parasites, particularly malarial parasites. *Note.* The "spreader slide" technique illustrated is also used in preparing a blood smear by capillary puncture ("finger stick").

Table 5–8. Assisting With Diagnostic Tests and Collection of Specimens—Continued

Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
G. CLEARANCE TESTS:				
1. General	Dye substance for IV injection, from pharmacy. Equipment for administration of dye from ward IV tray. Equipment for collection of specimen from laboratory.	1. Dye substance administered IV by medical officer. 2. At exact time interval after administration of dye, assist with collection of specimen.	1. Prepare request form as directed. 2. Prepare patient as directed. 3. Assist medical officer as directed with preparation of dye substance and collection of specimens. 4. Record, report, and observe accurate timing of periods for collection of specimens—this is of critical importance. 5. Forward accurately labeled and identified specimens promptly to the laboratory.	1. Clearance tests measure the efficiency with which a body organ removes certain substances from the blood. Examples of tests commonly used are the BSP test, to evaluate liver function; and the PSP test, to evaluate kidney function. Both tests are based on the excretion of a dye, as measured by a colorimetry procedure conducted in the laboratory. 2. Failure to record exact time the test substance was administered and failure to record the exact time a test substance such as blood or urine is required from the patient invalidates both of these tests.
2. BSP Test	1. Ampules of BSP—qs for administration; dye substance for IV injection, from pharmacy; equipment for administration of dye from ward tray; 2 syringes, 10 ml; 2 needles, 2", 20G; 1 collecting tube; 1 label; SF 514D; watch, pencil, and paper.	*Note:* IV administration of calculated amount of dye by medical officer. 1. Record time of administration as directed by medical officer. 2. Assist with collection of 10 ml. blood specimen, by venipuncture from arm opposite that used for dye administration, exactly 45 minutes after dye has been administered.	1. Prepare request form, SF 514D (Blood Chemistry) as directed. 2. Weigh patient. Record weight in pounds. (Doctor will calculate conversion of weight in pounds to kilograms, and prepare dose of 5 mg. of BSP dye per kg. of body weight for IV injection). 3. Prepare and instruct patient for fasting specimen test (F 3, above.) 4. Assist medical officer as required. 5. Forward specimen of blood promptly to the laboratory.	1. BSP (Bromsulphalein, or synonymous preparation) is a dye which when administered intravenously is normally removed from the blood by the liver and excreted in the feces. The BSP test measures the concentration of dye in the blood. Results of the test are expressed in terms of percent retention. 2. Normal results: Less than 5-percent retention in 45 minutes after administration. 3. Observe patient for possible allergic reaction to dye; e.g., itchy feeling; hot, flushed skin. Report and record time and symptoms stat.
3. PSP Test	Ampule of PSP from pharmacy. Dye substance for IV injection from pharmacy; equipment for administration of dye from ward IV tray; 4 urine specimen bottles; 1	1. IV administration of exactly 1 ml of dye by medical officer to a previously hydrated patient. 2. Collection of urine specimens at exact time intervals after	1. Prepare request form, SF [illegible]L, as directed, and 4 specimen bottle labels. 2. Do not apply restriction as for fasting specimen. 3. *Give as directed, 3 to 4	1. PSP (Phenolsulfonphthalein) is a red dye which is readily removed from the blood by the normal kidney and excreted in the urine. The PSP test measures the concentration of dye

	syringe (2 ml); 1 needle 2", 20G; 4 labels; SF 514-L (Renal Function); drinking water.	injection of dye: No. 1-15 minutes No 2-30 minutes No 3-60 minutes No 4-120 minutes	glasses of water to drink within 1 hour prior to the test. 4. Assist, as required, with administration of dye IV. 5. Record exact time of dye administration on SF 514L. 6. Record exact time specimens of urine are to be collected, with patient emptying bladder completely for each specimen: Specimen No. 1-15 minutes Specimen No. 2—30 minutes Specimen No. 3—60 minutes Specimen No. 4—120 minutes 7. Collect specimens on schedule. 8. Label each specimen correctly. 9. Forward all specimens together to laboratory as soon as last specimen (No. 4) is collected. (Keep all specimens together at patient's bedside pending completion of test.) *Unless otherwise ordered, the bladder is not emptied at the outset of the test since this might impair the patient's ability to void at the 55- and 30-minute intervals.	present in the urine at exactly 15-, 30- 60-, and 120-minute intervals following administration of the dye. 2. Normal results: 25%, excretion in 15 minutes, and a total of at least 65%, excretion of the dye in 2 hours. 3. The test requires the patient to empty his bladder completely at each collection period. If the patient has a known or suspected urine residual, a retention catheter may be ordered, to be clamped and released as required in order to collect the specimens at the exact time interval.
H. GLUCOSE TOLERANCE TEST (ORAL METHOD).	From laboratory: 5 blood collecting tubes; 5 urine specimen bottles; weighed amount of glucose. From ward: 5 sterile syringes, 10 ml; 5 sterile needles, 20 G, 2"; 10 labels; SF 514M (Miscellaneous) ward IV tray or table.	1. Patient voids fasting specimen—all urine is saved in urine specimen bottle. 2. Immediately after the patient voids, a fasting blood specimen is obtained by venipuncture. 3. Immediately after fasting specimens are obtained, the patient drinks 400 ml. of prepared glucose. Time is recorded when glucose is ingested. 4. Blood and urine samples are collected, and time of collection is recorded at following intervals: ½ hour after glucose ingestion 1 hour after glucose ingestion 2 hours after glucose ingestion 3 hours after glucose ingestion	1. Prepare request form (usually SF 514-M (Miscellaneous)) as directed. Make appointment as per laboratory schedule. 2. Prepare and instruct patient for fasting specimen test (F 3, above) with this exception: there may be, by specific order, a controlled administration of water to hydrate patient for obtaining urine specimens. Check local directives. 3. Instruct and assist patient to avoid exercise and anxiety. He should be as relaxed as possible during the test. 4. Obtain 5 blood collection tubes, 5 urine specimen bottles, and weighed amount of glucose from laboratory 1 day prior to test.	Tolerance tests determine the rate of utilization of a particular substance by the body. As in clearance tests, failure to record exact time the test substance was administered and failure to record the exact time a test substance such as blood or urine is required from the patient invalidates the tests. In the glucose tolerance test a determination is made of the body's ability to handle a sudden load of glucose, a pure carbohydrate. A given amount of glucose is administered (PO or IV) and at periodic intervals, blood and urine samples are obtained and analyzed in the chemistry section of the laboratory for glucose content. The

Table 5-8. Assisting With Diagnostic Tests and Collection of Specimens—Continued

Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
		5. The 5 blood specimens and 5 urine specimens are sent to the laboratory. *Note.* The patient is usually instructed to drink the 400 ml. of prepared glucose solution within 10 minutes. The time recorded is when all of the solution has been ingested.	5. Prepare written schedule to use as a worksheet in assisting with test—to include— Specimen No. 1: Time fasting urine Time fasting blood Time glucose administration Specimen No. 2: Time } ½ hour after Blood } glucose ingestion Urine } Specimen No. 3: Time } 1 hour after Blood } glucose ingestion Urine } Specimen No. 4: Time } 2 hours after Blood } glucose ingestion Urine } Specimen No. 5: Time } 3 hours Blood } after Urine } ingestion 6. Prepare, p.r.n., at 0700 hours on morning of test, the glucose solution, as ordered. Chill solution after glucose is completely dissolved to make it more palatable. 7. At time of start of test, assist medical officer as directed, observing and recording exact time intervals until entire collection of specimens is completed. 8. Send 5 blood specimens and 5 urine specimens to laboratory, with each specimen labeled with the exact time of collection.	test is commonly ordered in the diagnosis of diabetes mellitus, in which there will be a decreased tolerance with a marked and prolonged blood glucose level (hyperglycemia). (Normally, the fasting level blood glucose is 80–120 mg. per 100 ml. of blood; there is a sharp increase for up to 2 hours, and then a fall to the original fasting level.) The measured amount of glucose is dissolved in a measured amount of water, flavored with lemon juice. Usually, 400 ml. of a 12.5 percent solution is prepared. (Preparation may be on the ward, or the solution may be obtained from the laboratory.)
I. GASTRIC-INTESTINAL ANALYSES:				
1. Gastric analysis—single specimen.	Gastric intubation tray—Levin tube setup. Syringe, 30 ml Luer specimen container, SF 514F, label.	1. Following intubation by medical officer, tube is taped to face, and fasting specimen is withdrawn by Luer syringe. *Note.* Patient is instructed not to swallow any saliva or sputum for duration of test.	1. Prepare request form as directed. 2. Assemble and prepare equipment. 3. Instruct patient as for fasting specimen (F 3, above).	1. In a single specimen gastric analysis, the contents of the stomach in the fasting state are exhausted. In a fractional specimen gastric analysis, the fasting specimen is obtained and

		An emesis basin and tissues must be provided for expectoration, which may be copious. 2. Specimen (average 30-50 ml. in volume) is placed in specimen container.	Help patient to relax and be free of anxiety. 4 Do not permit smoking until test is completed. 5. Do not permit brushing of teeth on morning of test. 6. Label and forward specimen with request form to Chemistry Section of laboratory.	then a suitable stomach stimulant, called a test meal, is administered by tube or parentally and samples of stomach content are withdrawn at periodic intervals. 2. Chemical tests are done to determine the acid content of all the gastric specimens. Hyperacidity is characteristic of duodenal ulcer, gastric ulcer, and chronic gastritis; hypoacidity is characteristic of gastric carcinoma; anacidity (absence of any acid) is often encountered in pernicious anemia. 3. Chemical tests with a reagent indicator to determine the presence of occult blood may also be ordered. It is important to avoid any injury from intubation; even traces of blood from gum trauma may interfere with a valid test for occult bleeding; therefore, patient should not brush teeth before obtaining gastric specimens. Give mouth care after tube is withdrawn.
2. Gastric analysis—fractional (test meal) analysis.	Same as 1 above, plus: 5 (or more) specimen bottles; 5 (or more) labels. Test meal as ordered.	1. Same as the steps in 1, above. 2. Medical officer administers test meal substance. It may be 50 ml. of 7% ethyl alcohol administered by tube, or histamine subcutaneously. 3. At specified intervals, specimens are withdrawn by Luer syringe, placing each sample in separate labeled container.	1. Same as 1, Steps 1 thru 5, above. 2. Follow local directive and medical officer's instructions for obtaining fractional specimens at specified intervals. All available contents are withdrawn for each sample. 3. If histamine is ordered, take and record pulse and BP 10 minutes before and 10 minutes after dose. Histamine is a powerful drug and untoward reactions may occur. Have epinephrine 1-1000, 0.5 ml. in syringe, or a prescribed antihistamine immediately available.	
3. Gastric analysis—tubeless.	Dye preparation (such as Diagnex Blue); gastric secretion-stimulating drug; drinking water; urine specimen bottle; SF 514-F; label.	1. Fasting patient receives gastric secretion-stimulating drug (such as caffeine sodium benzoate, p.o.). 2. Patient voids 1 hour after receiving above drug. Urine is discarded. 3. Patient takes, by mouth, dye preparation granules with water, as ordered. 4. Patient voids 2 hours after dye ingestion. This specimen is saved and sent to laboratory.	1. Instruct patient on "NPO" order the evening before the test. 2. Follow doctor's written order for administration of drug and dye the morning of the test. 3. Save all urine voided in 2-hour interim between administration of dye and termination of the test. 4. Send specimen to laboratory at once.	This "tubeless" technique is used as a screening test—the result may determine whether or not the patient will be scheduled for a conventional gastric analysis requiring gastric intubation. The dye preparation taken by mouth is released in the stomach only if acid is present in stomach secretions; if released, it is absorbed and excreted in the urine. The urine will have a blue color.
4. Duodenal (biliary) drainage specimens.	Intubation tray—as for gastric analysis, with Rehfuss tubes in basin of ice; Luer syringe, 30 ml.	The sequence of specimen collecting procedure is usually as follows: 1. Oral intubation of metal-	1. Obtain equipment and prepare for intubation procedure at bedside. 2. Prepare patient for collection	Duodenal drainage and fractional bile specimens are obtained by special duodenal intubation and drainage tech-

Table 5–8. Assisting With Diagnostic Tests and Collection of Specimens—Continued

Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
	*Specimen bottles-5; Magnesium Sulphate, USP for injection, ampule; icebucket, with ice; SF 514—as directed; labels, 5. *Specimen bottles—usually acid-cleaned urine specimen bottles obtained from laboratory.	tipped Rehfuss tube by the medical officer. 2. Fasting stomach contents aspirated. If saved, this is placed in bottle No. 1. 3. Patient is placed in right, lateral recumbent position with hips elevated 6 to 8 inches. 4. Tube advanced about 2 inches every 5 minutes until circular marking No. 2 on tube is at lip margins. (At this point, tube should have reached duodenum-about 20 minutes after gastric aspiration.) 5. The free end of tube is placed into bottle No. 2 for collection by drip drainage of about 10 cc. of duodenal drainage. *Note.* As specimens are collected, place specimen containers 2, 3, 4, and 5 in ice bucket containing ice. 6. Magnesium sulphate solution is instilled by gravity through syringe barrel to stimulate bile flow into duodenum. 7. Tube is clamped for 5 minutes. 8. Fractional bile specimens are collected into labeled bottles as follows: No. 3—Bile A (light yellow—from common bile duct). No. 4—Bile B (dark, golden—from gallbladder) No. 5—Bile C (light, thin, yellow—from liver). 9. Rehfuss tube is removed, following collection of specimen No. 5. (Tube removal must be a gradual process, to overcome the tugging sensation due to the tip's location in the intestine.) 10. All specimens sent to laboratory as soon as possible and transported in iced container.	of fasting specimens as in F 3, above. 3. Prepare 5 specimen labels: No. 1—gastric contents, fasting No. 2—Duodenal drainage, fasting No. 3 Bile A No. 4 Bile B No. 5 Bile C 4. Assist medical officer, as he directs, with intubation procedure. 5. Position patient flat in bed, lying on right side. Then elevate knee gatch to raise hips 6 to 8 inches. 6. Assist with collection of specimens as directed by medical officer. (Placing collection bottle in use on chair seat at bedside facilitates gravity drainage.) Make sure end of tube is placed securely in bottle to avoid loss of specimen. 7. Assist with removal of Rehfuss tube, as directed by medical officer. 8. Assist patient with mouth care immediately after removal of tube. 9. Remove and care for equipment for return to CMS.	niques. The metal tip on the Rehfuss tube facilitates passage of the tube through the stomach and the special positioning of the patient facilitates collection of the required specimens. Collection technique is always as directed by the medical officer, with intestinal specimens obtained by gravity drainage and not by syringe aspiration. Close attention during this time-consuming procedure is essential. It is usually not too uncomfortable for the patient, although he must remain in the prescribed position for the duration of the procedure.
J. BODY FLUID ASPIRATION (EXTRA-				

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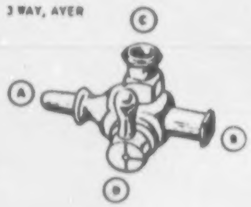
VASCULAR).	From CMS: Parathoracentesis try (fig. 5-110).	The medical officer, using aseptic technique and following local anesthesia, introduces a sterile needle or other cannula into a body cavity or tissue space. He then aspirates (taps) accumulated fluid for either diagnostic, therapeutic, or both purposes.	1. Obtain and set up required equipment. 2. Tell patient what is to be done, giving appropriate information and reassurance to obtain his cooperation. 3. Take and record baseline vital signs before procedure. 4. Assist with procedure and recording of data as the medical officer directs. 5. Watch patient for any changes in color, pulse, or respiration. 6. Take or send specimens to lab. 7. Care for patient postprocedure. 8. Care for equipment postprocedure.	These procedures are usually performed on the patient's home ward at the bedside, or in the ward treatment room. Although the procedure itself is performed only by the medical officer, the active assistance and participation of competent nursing personnel is required. There are many occasions when these procedures are done only when both professional and nonprofessional nursing assistance is available—before, during, and after treatment.
1. Lumbar puncture (spinal fluid aspiration).	From CMS: Sterile spinal puncture tray (fig. 5-111); sterile gloves. From Ward: Skin disinfectant; local anesthetic agent; alcohol sponge container; transfer forceps; mobile table; stool (for doctor); holder for specimen; tubes (jar or glass); paper and pencil; adhesive tape; SF 514H; 3 labels.	Position of Patient: 1. Turned on his side, near edge of bed or treatment table, with his back toward the operator. *2. Back area skin exposed from buttocks to neck. 3. Knees drawn up to abdomen, chin drawn down to chest; shoulders and hips in same vertical plane. Procedure: 1. Lumber area *is prepared with skin disinfectant and draped. **2. Local anesthetic is injected. 3. Lumbar puncture needle is inserted into subarachnoid space of spinal canal. 4. Stylet of needle is withdrawn and fluid flow observed. 5. 3-way stopcock is inserted into needle hub, and manometer is attached. 6. Pressure of fluid is noted in manometer, and data is recorded. 7. Specimens are collected into test tubes and handed to assistant.	1. Assemble equipment at treatment site. 2. Set up sterile field on mobile table for convenience of operator. 3. Place stool on operator's side of bed. 4. Assist with placing patient in position and then, standing on side of the bed toward which patient is facing, hold him as necessary to maintain position. Do this by slipping your forearms behind the patient's flexed neck and knees to remind him not to attempt to straighten out. 5. Encourage patient to relax his muscles and to breathe slowly through his mouth. 6. Watch patient's color, pulse, and respiration throughout procedure. 7. Record data on worksheet at direction of doctor. 8. Receive and label specimens, identifying them as No. 1, No. 2, and No. 3. Set specimen tubes upright in holder provided. Be sure tubes are	 1. Slip connector (a) to needle hub. 2. Lock connectors (b and c) to manometer and syringe. 3. Handle (d) always toward closed port; e.g., in illustration. manometer port is closed, needle and syringe ports are open and in communication.

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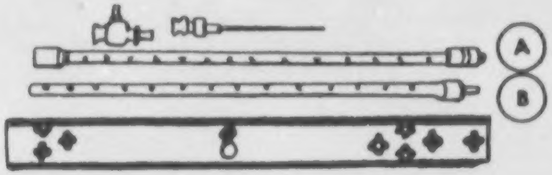
Table 5-8. Assisting With Diagnostic Tests and Collection of Specimens—Continued

Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
		8. Needle is withdrawn and dry dressing applied to puncture site. *Shave lumbar area as directed, p.r.n. **Review thoracentesis procedure, for assisting with local anesthetic.  	securely capped or corked. 9. After treatment, assist patient to move to supine position in center of bed. Caution him to remain flat, on bed rest, for 24 hours, or as ordered. 10. Take or send specimens to laboratory at once. 11. Remove equipment from treatment site. Discard all linen in laundry hamper, discard all disposables in waste receptacle. Rinse manometer needles, and stopcock in cold water. Reset manometer in rack to prevent breakage. Return tray to CMS. 12. Record procedure on DD 640, Nursing Notes.	1. Spinal manometer, 2-part; metal rack protector used for sterilization and wrapping. 2. Luer lock end of manometer (a) of illustration is attached to Luer-lock connector of stopcock. When pressure level is very high, extension of manometer (b) is used.
2. Abdominal paracentesis (ascitic fluid).	From CMS: Sterile para-thoracentesis tray (figs. 5-110 and 5-112); sterile gloves. From Ward: Large rubber sheet; bed sheet; pail or gallon bottle; transfer forceps; alcohol sponges; skin disinfectant; local anesthetic vial; emesis basin; mobile table; stool for doctor; footstool; pillows, 2 or more; SF 514-M; labels; sterile ABD pad; scultetus binder; safety pins; adhesive tape.	Position of Patient: Seated upright in a chair at bedside, or seated on side of bed, facing operator. Abdomen from waist to groin is exposed. Procedure—The doctor usually performs the procedure in the following sequence: 1. Skin preparation antiseptic. Shave abdomen from umbilicus to groin, if necessary. 2. Sterile draping. 3. Local anesthetic injected. 4. Small incision made through skin into abdominal wall in area below umbilicus. 5. Insertion of trocar and cannula. 6. Withdrawal of trocar for fluid drainage. 7. Direction of fluid into specimen bottle and then into drainage receptacle. 8. Withdrawal of cannula. 9. Skin suture p.r.n. 10. Dry dressing to incision.	1. Obtain equipment and assemble at bedside. 2. Tell patient what is to be done, giving appropriate information and reassurance. 3. Weigh patient. Record weight. 4. Take and record vital signs. 5. Have patient void. Record time and amount. Having the patient void immediately before the procedure is of critical importance, to avoid puncture of a distended urinary bladder. If the patient is unable to void, check for catheterization order. 6. Set up sterile field. 7. Place stool for doctor to sit on, facing patient, at side of bed. Place drainage receptacle on a footstool. 8. Assist patient in position supporting back with pillows and feet on chair seat if on side of bed; assist patient to sit upright in chair if out of bed. 9. Remove pajama trousers, if worn, draping genitalia with a	Paracentesis is a surgical puncture of a cavity for the aspiration of fluid; the term is used in referring to puncture of any body cavity. Abdominal paracentesis is done to relieve severe ascites, the accumulation of fluid in the abdominal cavity. (Pleural paracentesis is another term for thoracentesis.) Ascites may develop as a complication of severe congestive heart disease or chronic liver disease; as the fluid accumulates, the abdomen becomes greatly distended ("tight as a drum") and the pressure on abdominal organs and the diaphragm impairs digestion and breathing. The procedure is done only when ascites is not relieved by medical means; for example, by low sodium diet and diuretic drug therapy to control fluid retention. Patients requiring paracentesis are both acutely and chronically ill and require

			towel. Drape covered, rubber sheet over patient's thighs and knees. 10. Assist doctor, as directed. 11. Watch patient's pulse and color—with release of fluid there may be circulatory changes. 12. After treatment, assist patient to comfortable dorsal position. Apply ABD pad and scultetus binder, as directed, if support to abdomen is required. 13. Remove equipment. Measure fluid in a graduate and record amount. 14. Weigh patient as soon as possible after treatment and record weight. 15. Send labeled specimen to laboratory. 16. Return equipment to CMS. 17. Observe patient for vital signs and incision area for any seepage. Reinforce dressing p.r.n.	expert nursing care at all times.
3. Joint aspiration.	From CMS: Sterile aspirating tray; sterile gloves. From Ward: Transfer forceps; skin disinfectant; local anesthetic agent; vial of drug for joint instillation p.r.n.; elastic bandage p.r.n., SF 514-M.	Position of patient: Most comfortable possible to provide full support and exposure of joint to be aspirated. Procedure: The doctor usually performs the procedure in the following sequence: Applies skin disinfectant. Drapes area. Injects anesthetic. Inserts aspiration needle. Collects specimen. Instills medication p.r.n. Directs positioning of aspirated joint.	1. Obtain and assemble equipment at bedside or in ward treatment room. 2. Provide support for joint to be aspirated, as directed by doctor. 3. Set up sterile field. 4. Assist doctor as directed with treatment and application of bandage, if used. 5. Send or take specimen to laboratory stat. 6. Assist patient to maintain required position. This is usually with the joint at rest but in a position of function.	Sterile needle aspiration of fluid from a joint cavity is usually less traumatic than an incision and drainage of the joint. Fluid accumulation in a joint cavity may be the result of trauma, with consequent inflammation and exudation of fluid, as in "water on the knee." It may also be the result of infection, with purulent exudate. A hormone drug, such as hydrocortisone, may be instilled to relieve inflammation. An antibiotic or other chemotherapeutic drug may be instilled to combat infection.
K. SYSTEMIC VENOUS PRESSURE MEASUREMENT AND CIRCULATION TIME.	From CMS: Sterile venous pressure tray, sterile gloves. From Ward: Skin preparation tray; local anesthesia p.r.n.;	Position of Patient: Usually recumbent, with right arm elevated to level of the heart and supported on a	1. Obtain equipment and assemble at bedside. 2. Position patient so that right forearm is available for	The venous pressure test is one of many cardiovascular function tests. It is the measurement of the pressure exerted by the

Table 5–8. Assisting With Diagnostic Tests and Collection of Specimens—Continued

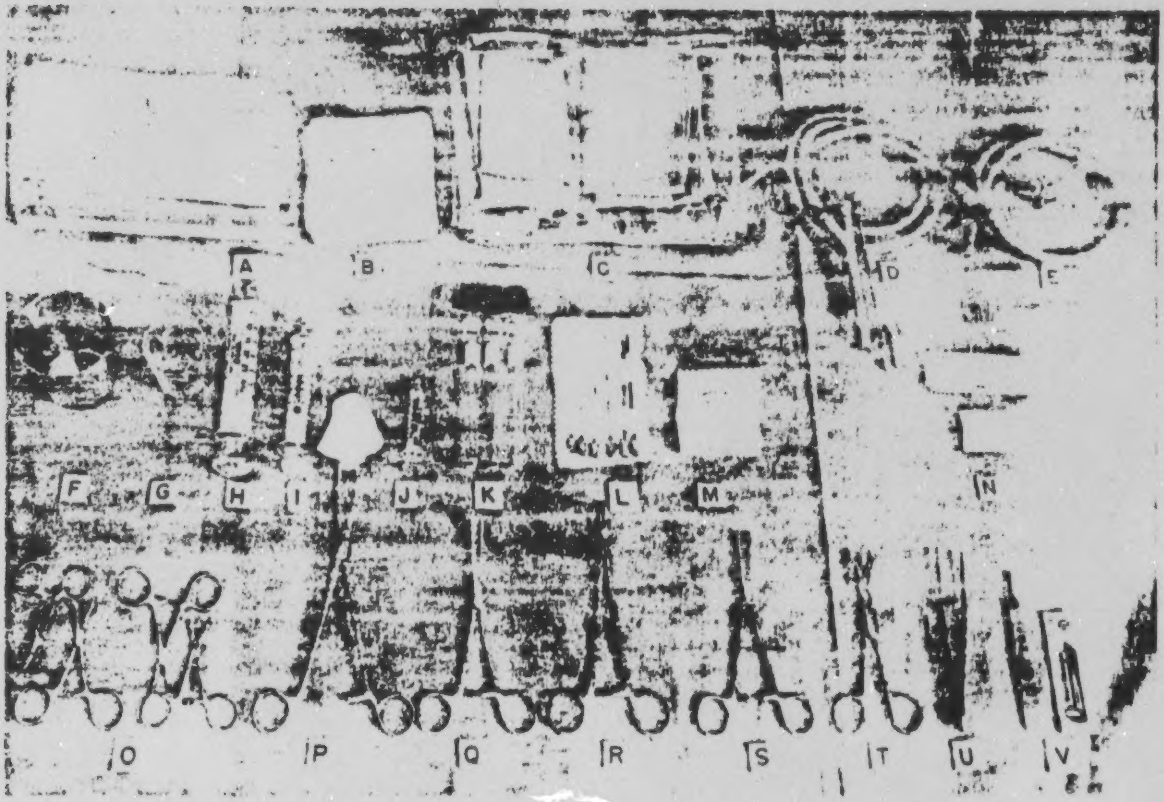
Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
	ampule of sterile normal (0.9 percent) saline, for IV, small protective sheet and cover; tourniquet; ampule file; pencil and paper; stopwatch. Drugs: IV preparation as ordered for circulation time—may be sodium dehydrocholate (Decholin) for arm-to-tongue test.	pillow. Procedure: The doctor usually per'orms the procedure in the following sequence: 1. Skin prep, usually right antecubital fossa. 2. Needle, stopcock, and syringe assembled. 3. Sterile sodium chloride drawn into syringe. 4. Venipuncture done. 5. Tourniquet released. 6. Manometer attached to free port on stopcock. 7. Stopcock handle adjusted and blood-saline mixture in syringe run into manometer. 8. Stopcock adjusted so that needle in vein and manometer communicate. Pressure reading taken when this level stabilizes in manometer. 9. If circulation time is to be determined, the needle is left in place in the vein and the syringe containing the IV drug solution is exchanged for the one which contains the saline solution.	venipuncture. 3. Place protective cover under arm. 4. Place tourniquet in position but do not apply the tourniquet until so directed by the doctor. 5. Assist as directed by the doctor—this may include preparation of saline and drug ampules or vials for withdrawal of contents; release of tourniquet; recording venous pressure and circulation time.	circulatory blood against venous walls. Venous pressure is usually elevated in congestive heart failure and other conditions causing obstruction of venous circulation. Normal venous pressure is much lower than arterial pressure and is customarily measured by means of a water (spinal) manometer in millimeters (mm.) or centimeters (cm.) of water pressure. The normal range is 6 to 12 cm. of water. Circulation time is measured to determine rate of blood flow. It is usually done immediately following determination of venous pressure by arm-to-tongue test. A drug with a strong, distinctive taste is injected intravenously by the doctor and circulation time is determined, with a stopwatch, from the moment the drug is introduced into the vein until the patient is aware of the taste. The patient must know what to expect the doctor tells him exactly how he is to signal in order to assist with timing.
L. NEEDLE BIOPSY OF LIVER.	Liver biopsy tray from CMS. sterile gloves; local anesthetic vial; skin prep tray; transfer forceps; SF Form 522 (signed); SF 515 (Tissue Examination); specimen jar with fixative from laboratory; band-aid dressing.	Position of the Patient: 1. With the bed flat, the patient lies on his back, as near to the right side (patient's right) as possible. 2. Chest and abdomen are exposed. 3. Right arm is above head in comfortable position. Procedure: 1. The doctor instructs the patient on maintaining required position, controlling his breathing, etc. 2. The doctor disinfects skin,	1. Obtain equipment. 2. Check to see if SF Form 522 has been signed and inserted in clinical record. 3. Withhold food and fluids 4 hours prior to procedure. 4. Take and record vital signs. 5. Position patient. 6. Set up sterile field. 7. Assist with procedure as directed. 8. With an assistant, lift patient gently back into center of bed after biopsy. 9. Caution patient to remain	Needle biopsy of the liver is done to evaluate the effects of liver disease on liver tissue. By means of a special, 3-part biopsy needle, a minute core of liver tissue is obtained for microscopic examination. Because in liver disease there is a possibility of a bleeding tendency, the patient will have had extensive hematology studies completed prior to biopsy to include hemoglobin, bleeding time, clotting time, platelet count, etc.

		applies drapes, and anesthetizes the area. 3. He inserts the biopsy needle, obtains specimen, and places the specimen in the specimen jar. 4. He applies a small (may be Band Aid), dry dressing to puncture site. Specimen: Hand-carried to pathology section of laboratory.	flat for 6 hours, or time directed by doctor. Complete bed rest is continued for 24 hours. All exertion must be avoided, and any movement must be minimal. 10. Take and record vital signs q. 15 min. for 1 hour, and then q. 2h for the next 12 hours. Notify the doctor stat. of increase in pulse rate, drop in BP, pain in RUQ (there will be soreness). 11. Assist patient with meals, hygiene, etc., while complete bed rest is continued.	The complication to be alert for after liver biopsy is internal hemorrhage. The small puncture site and dressing are deceptive, and patient and personnel must be informed of the importance of complete bed rest and close observation.
M. ENDOSCOPIES: 1. Cystoscopy (IV pyelogram). (genitourinary examination).	Check doctor's orders. For preparation of patient: Enema tray; Hypnotic if ordered; "No breakfast" sign for patient's bed; SF 522 signed.	Examination is done in cystoscopy room. Cystoscope is inserted into urinary bladder, ureteral catheter into fundus of kidney. Dye is given IV; X-ray pictures are taken.	Send request, make appointment. Preparation of patient. 1. Cleansing enema night before examination. 2. Give cathartic if ordered. 3. Omit breakfast on day of examination. 4. Give hypnotic if ordered. 5. Provide transportation (stretcher). 6. Send chart with patient. After treatment: 1. Serve breakfast. 2. Force fluids. 3. Be alert for signs of pain or discomfort.	The cystoscopy room may be part of the OR or in a special GU clinic area.
2. Bronchoscopy; Bronchography (thoracic examinations).	For preparation of patient: Nothing by mouth; Hypnotic if ordered; "Nothing by mouth" sign for patient's bed; SF 522 signed.	Examination is done in bronchoscopy room or operating room. Bronchoscope is inserted into trachea and large bronchi. Mucous membrane is visualized. *Note.* Local anesthetic is instilled and patient will not have protective swallow reflex until anesthesia has worn off.	Send request, make appointment. Preparation of patient: 1. Nothing by mouth 4 to 6 hours before examination. 2. Give hypnotic if ordered. 3. Provide transportation (stretcher). 4. Send chart with patient. After treatment: 1. Nothing by mouth until anesthesia has worn off. 2. Be alert for signs of pain, discomfort, or respiratory distress.	A bronchogram may be ordered in connection with the bronchoscopy. A radiopaque dye is instilled into the bronchi. When this has been done, postural drainage is an important part of posttreatment.

Table 5–8. Assisting With Diagnostic Tests and Collection of Specimens—Continued

Specimen/test	Equipment	Method of collection: General Instructions	Duties of medical specialist	Remarks
3. Proctoscopy (follow same procedure for sigmoidoscopy). (Rectal examination).	(Check doctor's orders). For preparation of patient: Enema tray; Hypnotic if ordered; "No breakfast" sign for bed or tray; Light supper; SF 522 signed.	Examination is done in the proctoscopy room. Protoscope is inserted into rectum; mucous membrane is visualized. Female patients must be chaperoned by female personnel.	Send request, make appointment. Preparation of patient: A. Evening before examination: 1. Light supper. 2. Cleansing enema. B. Morning of examination: 1. Cleansing enema until returns are clear. 2. Omit breakfast. 3. Give hypnotic if ordered. 4. Provide transportation (stretcher). 5. Send chart with patient. After treatment: 1. Serve meal. 2. Be alert for signs of pain or discomfort.	
N. BASAL METABOLISM RATE (BMR).	Special BMR room or on ward in a quiet room, screened area; Request Form 514-I; "No breakfast" sign for patient's bed. Omit medications.	Test is taken by technician. Patient lies quietly in bed, breathes through BMR apparatus. Respirations are recorded on graph.	Take height, weight, age, record on request form. Send request to BMR room for appointment. Tell patient to remain in bed from bedtime (2100 hours) until after test in a.m. and to take nothing by mouth after 2100 hours. No smoking. Delay AM care and breakfast until after test. Provide transportation to BMR room at scheduled hour. After treatment: Serve breakfast	The BMR test measures the rate of oxygen utilization under basal conditions—that is when the patient is at complete physical and mental rest.
O. ELECTRICAL IMPULSES:				
1. Electrocardiograph (ECG) (EKG).	Special ECG room or bed in ward. Request SF Form 520.	Patient lies quietly in bed. Leads are fastened to various parts of body. Electrical impulses are recorded on graph.	Take height, weight, age; record on request Send request for appointment. On ward: • Reassure patient. • Fold top covers to foot of bed. • Loosen pajama coat. • Assist technician if necessary. In ECG room: provide transportation to room.	

2. Electroencephalogram (EECG).	Special EECG room. Request form.	Leads are fastened to various parts of the head. Electrical impulses are recorded on graph.	Send request to EECG room, make appointment. Provide transportation.	
P. X-RAY EXAMINATIONS:				
1. Chest (routine)	SF 519A	Taken by X-ray technician in X-ray department.	*Note.* No special preparation of patient.	With the exception of the routine chest X-ray or the portable chest X-ray, almost all diagnostic examinations by X-ray require preliminary preparation of the patient. Local directives must be followed. In general, these rules apply: (1) If examination requires enemas or cathartics, these orders must be written by the ward medical officer. (2) If preparation includes enema administration, the success of the examination may depend upon proper cleansing of the bowel. When so ordered, the enema procedure should be completed at least 2 hours prior to examination. (3) If preparation includes dietary and fluid restriction, the patient must be fully instructed, as well as food service notified.
2. Chest (portable)	SF 519A—write "portable" on form.	Taken by X-ray technician who brings portable apparatus to patient's bedside.	1. Send ambulatory patient, or transport bed patient, on call to X-ray. 2. Assist X-ray technician as necessary to position and support the patient. The technician will give all instructions to the patient and to the assistant.	
3. Abdominal and special series.	SF 519A	Taken by X-ray technician, X-ray department. By appointment at scheduled hours.	Follow specific local X-ray department directive, and orders written by attending physician for X-ray studies such as Abdomen KUB (Kidneys, Ureters, Bladder) Spine Gastrointestinal Series (GI) Gallbladder Series (GB)	



USES: TO REMOVE FLUID FROM THE PLEURAL OR ABDOMINAL CAVITIES. TO RELIEVE PAIN; TO SECURE A SPECIMEN FOR DIAGNOSTIC PURPOSES; TO INSTILL MEDICATION.

A 4 HAND TOWELS

B 8 SPONGES, SURGICAL, 4 X 4 PLAIN

C 1 DRAPE SHEET

D 1 TROCAR

1 LATEX TUBING, 3/16 INCH INSIDE DIAMETER, 30 INCH LENGTH

E 1 LATEX TUBING, 3/16 INCH INSIDE DIAMETER, 10 INCH LENGTH, WITH STOPCOCK, 3 WAY, AYER, AND GLASS NEEDLE ADAPTER

F 1 CUP, SOLUTION

G 1 MEDICINE GLASS

H 1 SYRINGE, 30 ML, LUER LOCK

I 1 SYRINGE, 10 ML, LUER LOCK

J 1 SYRINGE, 2 ML

Figure 5–110. Para-thoracentesis tray.

K 3 TEST TUBES, SCREW CAP, CULTURE

L 1 NEEDLE, HYPODERMIC, 25 GAGE, 5/8 INCH

1 NEEDLE, HYPODERMIC, 22 GAGE, 1 INCH

1 NEEDLE, HYPODERMIC, 19 GAGE, 1 3/4 INCH

1 NEEDLE, HYPODERMIC, 17 GAGE, 3 INCH

1 NEEDLE, HYPODERMIC, 15 GAGE, 1 1/2 INCH

1 NEEDLE, HYPODERMIC, PNEUMOTHORAX, 13 GAGE, 3 1/2 INCH

M 2 NEEDLES, SUTURE, SURGEON, REGULAR, 3/8 CIRCLE, CUTTING EDGE, SIZE 12

2 NEEDLE, SUTURE, SURGEON, REGULAR, 3/8 CIRCLE, CUTTING EDGE, SIZE 16

N 1 SUTURE, BLACK SILK, 000

1 SUTURE, BLACK SILK, 0

O 4 FORCEPS, TOWEL BACKHAUS (SMALL TOWEL CLIP), 3½ INCH

P 1 FORCEPS, GAUZE PAD HOLDING, FOERSTER (SPONGE FORCEPS) STRAIGHT, 9½ INCH

Q 1 FORCEPS, HEMOSTATIC, ROCHESTER-PEON (CURVED KELLY), CURVED, 6¼ INCH

R 1 HOLDER, SUTURE NEEDLE HEGAR-MAYO, 7 INCH

S 1 FORCEP, HEMOSTATIC, KELLY (CRILE), STRAIGHT, 5½ INCH

T 1 SCISSORS, GENERAL SURGICAL, ONE POINT SHARP, STRAIGHT, 5½ INCH

U 1 FORCEPS, TISSUE, STRAIGHT, 5½ INCH

V 1 HANDLE, SURGICAL KNIFE, #3

1 BLADE, DETACHABLE, #15

TRAY SIZE: 15½ X 9½ X 2 INCHES

HAND TOWEL TO LINE TRAY

WRAPPER SIZE: 36 X 36 INCHES

STERILIZATION INDICATOR

NOTE: A STERILE 500 ML GRADUATE, BOWEL, SURGICAL SPONGE STEEL, OR WASHBASIN SHOULD ACCOMPANY TRAY FOR AN EXCESSIVE AMOUNT OF FLUID.

PARA-THORACENTESIS TRAY

Figure 5-110.—Continued.

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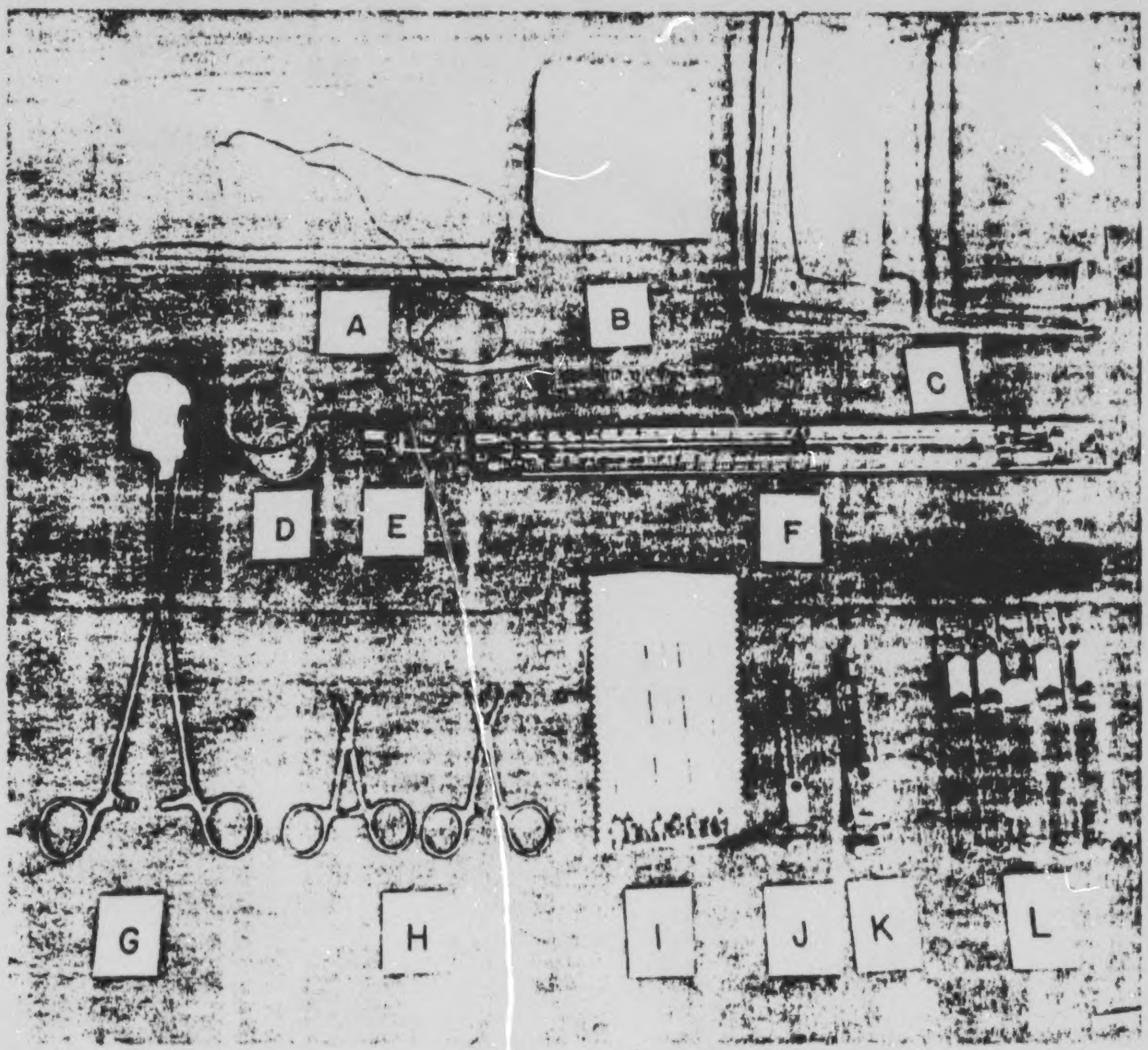

USES: TO OBTAIN SPECIMENS OF FLUID FOR ANALYSIS; TO RELIEVE INTRACRANIAL PRESSURE

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Figure 5-111. Spinal puncture tray.

A 2 HAND TOWELS

B 5 SPONGES, SURGICAL, 4 X 4 PLAIN

C 1 DRAPE SHEET

D 1 MEDICINE GLASS

E 1 STOPCOCK, 3 WAY, AYER

F 1 MANOMETER, SPINAL FLUID

G 1 FORCEPS, GAUZE PAD HOLDING, STRAIGHT, FORESTER, 9½ INCH

H 2 FORCEPS, TOWEL, BACKHAUS (SMALL TOWEL CLIP), 3½ INCH

I 1 NEEDLE, HYPODERMIC, 25 GAGE, 5/8 INCH
  1 NEEDLE, HYPODERMIC, 22 GAGE, 1½ INCH
  1 NEEDLE, SPINAL PUNCTURE, 22 GAGE, 3½ INCH
  1 NEEDLE, SPINAL PUNCTURE, 20 GAGE, 3½ INCH
  1 NEEDLE, SPINAL PUNCTURE, 18 GAGE, 3½ INCH

J 1 SYRINGE, 2 ML, LUER LOCK

K 1 SYRINGE, 5 ML, LUER LOCK

L 5 TEST TUBE, SCREW CAP, CULTURE

TRAY SIZE: 19¼ X 12¾ X ¾ INCHES

HAND TOWEL TO LINE TRAY

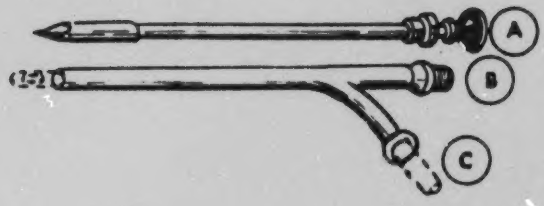
WRAPPER SIZE: 48 X 48 INCHES

STERILIZATION INDICATOR

NOTE: TRAY MAY ALSO BE USED FOR PNEUMONENCEPHALOGRAPHY. FOR PEDIATRICS, SPINAL PUNCTURE NEEDLE, 22 GAGE, 1½ INCH, AND 20 GAGE, 2 INCH, MUST ACCOMPANY THE TRAY.

SPINAL PUNCTURE TRAY.

Figure 5-111—Continued



Ⓐ TROCAR – THIS SHARP-POINTED INSTRUMENT IS USED WITH THE CANNULA FOR PIERCING THE ABDOMINAL WALL.

Ⓑ CANNULA.

Ⓒ THE SIDE ARM OF THE CANNULA MAY BE USED FOR ATTACHMENT OF A DRAINAGE TUBING, AS IN PARACENTESIS. IN OTHER TREATMENTS, A CATHETER MAY BE INTRODUCED, AS INDICATED IN THE DIAGRAM, TO REMAIN IN THE DRAINAGE AREA.

Figure 5-112. Trocar and cannula set (paracentesis).

CHAPTER 6

OUTPATIENT MEDICAL CARE

Section I. INTRODUCTION TO OUTPATIENT SERVICE FACILITIES

6–1. Dispensaries

A dispensary is a medical treatment facility designed primarily to provide outpatient examination and care for ambulatory patients, to treat emergency cases, and to arrange for admission to a hospital of patients requiring inpatient care. Dispensaries also perform various administrative, preventive medical, and sanitary activities related to the health of the personnel served. In general, the term "dispensary" designates a facility situated away from the immediate vicinity of a hospital; the term "outpatient clinic" is used for a unit of the hospital that provides medical service primarily for nonhospitalized patients; and the term "aid station" designates a unit dispensary providing primary medical care for troops in the field when the dispensary is operating in a combat zone or under simulated combat conditions. All of these medical treatment facilities are commanded by an officer of the Medical Corps.

6–2. Types of Dispensaries

a. Fixed Dispensaries. A fixed dispensary is a medical treatment facility operated by table of distribution and allowance (TDA) units. They are fixed dispensaries because they are intended to operate in the same location over a long period of time. A fixed dispensary is designed to provide medical service for personnel located in an Army installation, a large city, a military district, or a prescribed geographic area. These dispensaries are operated under the Medical Department Activity (MEDDAC) concept in accordance with AR 40–4. Under this concept, the dispensaries have a direct relationship to a designated parent medical service activity; they are a subordinate unit of the Department of Clinics of a designated U.S. Army hospital. A fixed dispensary located on an installation that has a U.S. Army hospital is designated by number; for example, "Dispensary number 1", a fixed dispensary located on an installation that does not have an Army hospital is designated as "U.S. Army Dispensary."

b. Mobile Dispensaries. Mobile (nonfixed) dispensaries can move or be moved from place to place to provide medical support in tactical operations. These dispensaries are operated by cellular or specialist units (table of organization and equipment—or TOE—units) having a team designation as follows:

(1) Teams MA, MB, and MC operate dispensary units in the communications zone. They are assigned to a theater army support command (TASCOM) and are employed on the basis of a specified troop population and the availability of nearby hospital facilities. Team MA is considered 40-percent mobile and could operate a dispensary designed to serve a troop population of 1500 to 3000. Team MB is considered 25-percent mobile and could operate a general dispensary designed to serve a troop population of 2000 to 5000. Team MC is considered 15-percent mobile and could serve a troop population of 5000 to 10,000. Qualified specialized personnel assigned to these respective teams enable each to organize operation of the dispensary into sections, which can provide services as shown below:

Section	Team MA	Team MB	Team MC
Dental	Yes	Yes	Yes
Surgical	Yes	Yes	Yes
Medicine	Yes	Yes	Yes
EENT	Yes	Yes	No
Laboratory	No	Yes	No
Pharmacy	Yes	Yes	Yes

(2) Team OA operates as a medical detachment with the primary mission of providing dispensary-type medical service for troops who do not have unit medical service. These teams are allocated on the basis of 1 per 1000 troops. The team is considered 100-percent mobile, as the organic vehicles authorized are sufficient to move the personnel and equipment of the unit.

6–3. Mission and Activities of Dispensaries

a. Dispensaries are the first level of medical service for all military personnel except those troops actually engaged in combat operations.

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Under combat or simulated combat conditions, first-level medical service for troops is provided in aid posts and aid stations (para 6–35). Dispensaries are not merely first aid or sorting stations, nor are they miniature hospitals; they provide proper diagnosis and treatment for patients or transfer them to the hospital for inpatient care. The majority of patients seeking medical care do so because of minor sickness, injury, or concern over personal health. If these individuals are returned to duty from the dispensary level without adequate examination, treatment, and reassurance, they continue to worry about their health, lose confidence in the Army Medical Department, and become less effective in their assignments. On the other hand, if they are needlessly hospitalized, duty time is lost unnecessarily and hospital personnel and facilities are used needlessly.

b. The importance of professional medical care and good interpersonal patient relationships in dispensary-level facilities cannot be overemphasized or exaggerated; a well-organized and efficiently operated dispensary is one of the most effective means of providing and extending medical service to the military community.

c. Some of the more important activities carried on by a dispensary are: (1) sick call; (2) emergency treatment; (3) continuing routine treatments or a series of treatments for patients who do not require hospitalization; (4) immunizations; (5) physical examinations; (6) sanitary inspections related to the health of personnel served; (7) maintenance of individual health records; and (8) in some dispensaries, provision of medical and nursing care and observation of quarters-status patients who are admitted to the patient care bed unit of the dispensary.

6–4. Dispensary Personnel

a. General. For dispensary facilities operating under TDA units, the size of the staff depends on the workload and the number of hours each week that the dispensary is open.

b. Personnel.

(1) *Dispensary surgeon.* The senior medical officer assigned to a dispensary is designated the dispensary surgeon. The surgeon is responsible for:

(*a*) Diagnosis, treatment, and disposition of all persons coming to the dispensary for medical care.

(*b*) Administration of the dispensary, including personnel, property, supplies, and records.

(*c*) Command function over personnel of the dispensary so far as pertains to the direct operation and efficiency of the dispensary. He is responsible for the adequate care and discipline of individuals coming to the dispensary while they are under his jurisdiction.

(*d*) The dispensary pharmacy and its operation.

(*e*) Maintenance of records and transmittal of reports as required.

(*f*) Such miscellaneous functions of the dispensary and its personnel as may be required. He also works in cooperation with the post or unit preventive medicine officer on matters relating to infectious disease incidence and control.

(2) *Assistant dispensary surgeons.* When more than one medical officer is assigned to a dispensary, the additional doctors are designated as assistant dispensary surgeons. Their duties are assigned by the dispensary surgeon.

(3) *Administrative officer.* Often the personnel of a dispensary includes a Medical Service Corps officer who serves as the administrative officer. This officer's duties are assigned by the dispensary surgeon. Usually he is put in charge of the administration of the dispensary, including personnel management, records, reports, property, and supplies.

(4) *Army Nurse Corps officer.* One or more members of the ANC may be assigned to a dispensary. This is determined, to a large extent, by the complexity of medical treatments provided and the population served by the dispensary. Duties and responsibilities of the ANC officer include performance of selected treatment procedures and overall supervision and coordination of nursing activities, including personnel in-service and on-the-job (OJT) training and patient education.

(5) *Chief dispensary medical specialist* (*MOS 91B40*). The chief dispensary medical specialist is the NCO in charge. He is responsible to the dispensary surgeon (and to the ANC officer, when one is assigned) for the conduct of nonprofessional duty personnel and enlisted patients; cleanliness, order, and physical maintenance of the dispensary and its equipment; instruction and supervision of dispensary specialists, assistants, and attendants in the care and treatment of patients and other work; estimation of supply needs and requisition of supplies; and maintenance of property records. He also assists the doctor (or nurse) in administering medications and treatments.

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(6) *Clinical specialist* (*MOS 91C20*). The clinical specialist applies advanced nursing care principles, procedures, and techniques in the care and treatment of patients independently, or he may be under the general supervision of the physician or nurse. He assists the medical officer with minor surgical and other therapeutic and diagnostic procedures under hospital or field conditions. He may also function as a chief dispensary medical specialist ((5) above).

(7) *Dispensary medical specialists* (*MOS 91B20, 91B40*) *and medical corpsman* (*MOS 91A10*). These personnel are responsible, at their respective levels of training and experience, through the NCO in charge, to the dispensary surgeon (and ANC officer, when assigned) for assisting with patient care as directed and for assisting with the cleanliness, order, and physical maintenance of the dispensary.

(8) *Pharmacy specialist* (*MOS 91Q20*). This specialist is charged with the operation of the dispensary pharmacy. He compounds and dispenses medications under the general supervision of a pharmacy officer or the dispensary surgeon, or both.

(9) *Clerk* (*MOS 71L20 or 71L40*). This clerk performs clerical and related duties. He is in charge of medical records and assists in the preparation of records and correspondence.

(10) *Civilian personnel.* Civil service personnel, as well as citizens of a host country (local national) or other non-U.S. citizens, may be employed by the U.S. Army for work in dispensaries and outpatient clinics. They may be employed as doctors, graduate nurses, practical nurses, nursing attendants, or in any other authorized position. Their duties and responsibilities are determined by the job description of the position for which they are employed.

c. Personnel Policies. Written personnel policies, dated and signed by the dispensary surgeon, should be established for each dispensary. All personnel on duty should be acquainted with and have access to these policies. Included in the policy statement should be information on—

(1) Hours of duty.
(2) Duty uniform.
(3) Meals (where and when).
(4) Leaves and passes.
(5) Illness and accidents.
(6) Command information program.
(7) Training program.

d. Orientation. An orientation helps a newly assigned individual to develop a feeling of belonging and to acquire the information and skill needed to function efficiently in the shortest possible time. The amount of time needed will vary according to the individual's experience and training. Special points to be included in the orientation are as follows:

(1) *Orientation to the unit.*

(*a*) Description of services available.
(*b*) Physical setup.
(*c*) Location of supplies and equipment.
(*d*) Instruction on emergency equipment: location and how to use it.
(*e*) Fire and safety regulations.
(*f*) Time schedule.
(*g*) Assignment sheets.

(2) *Orientation to the administrative organization.*

(*a*) Introduction to all personnel.
(*b*) Chain of command.
(*c*) General policies.
(*d*) Clinic routine and SOP.

(3) *Orientation on the responsibilities of the individual.* This should cover what is expected of each individual. A major responsibility of ALL duty personnel is to make certain that medical facilities are safe places for patients and personnel. The patient is also entitled to the best possible care from fully qualified personnel.

e. Training. The primary purpose of training in a dispensary is the improvement of patient care. The objectives of this training are to prepare each soldier to function effectively in the MOS now held and then to prepare him to meet the requirements of the next higher skill digit of his MOS. Training for civilians should prepare them to function more effectively in their present positions.

NOTE

Doctors, nurses, and dispensary specialists must be acquainted with (1) the MOS specifications described in AR 611-201 for each MOS authorized and (2) with the job descriptions of local national employees. Each individual must have the opportunity to develop his full potentiality. Training should be planned to meet the specifications of the individual's primary MOS and the requirements of his present job. It should be practical in nature—the individual should be told what to do, shown how to do it, and then given opportunity to practice under supervision until he can do the task safely and effectively.

This is accomplished for both military and civilian personnel by giving the individual an opportunity to—

(1) Improve old skills and to develop new ones.

(2) Acquire knowledge needed to function effectively in his assignment.

(3) Develop his abilities to function as a member of the patient care team.

f. Evaluation of Duty Performance.

(1) Work evaluation should be a constant process from the time the individual first comes on the job until he leaves. It should be based on what has been established as the work standards for his job.

(2) It is the individual supervisor's responsibility to help each soldier or civilian working under him to understand what is expected of him; to evaluate how he is doing; to help him to learn what to do and how to do it better; and to help him to develop. Each individual in an organization should know where he stands.

(3) A suggested plan for evaluation is shown below.

(*a*) Start when you orient. Build a good work relationship with the specialist and other nonprofessional personnel. Be sure each person knows what is expected of him and how to do it.

(*b*) Allow time for informal day-to-day talks. This is probably the most helpful kind of evaluation. Tell the individual what he is doing well. If he is doing something wrong, tell him in a matter-of-fact way that he is doing something one way when it is better to do it another way and why. Try to help the individual, rather than to "jump on him." Avoid criticizing one man in the presence of another.

(*c*) Plan private talks. Talk with the newly assigned person on a planned basis every few weeks about how he is measuring up to the job as a whole. Talk at planned intervals with men who have been on the job for a longer time. Go where you can talk undisturbed. Talk first about the things you like about the way he does his job. Then talk about the problems he has in performing some tasks. Talk about how to do them better. Be specific; show him; give examples. Let him express himself thoroughly and listen while he does.

(4) A summary evaluation should be made when the individual transfers to another job and when a written evaluation is required. This evaluation should be discussed with the individual concerned. If the supervisor has kept his men well informed, a summary evaluation will mean just another opportunity to talk to them.

6-5. Dispensary Physical Facilities

a. General. The dispensary may be located in a building planned for such use but often it is in one constructed for an entirely different purpose. The rooms or areas described in *b* below are usually needed to carry on the activities. The amount of space provided for each will depend on the building and the current workload. All available area must be used to the best possible advantage by—

(1) Providing adequate space for each activity.

(2) Planning for the least amount of unnecessary walking for personnel and patients.

(3) Avoiding bottlenecks in hallways and other common-use areas.

(4) Keeping noise to a minimum.

(5) Practicing preventive maintenance by day-to-day care, inspection, and first-echelon servicing of equipment and facilities. Corrective action should be initiated immediately to remove hazards to safety.

(6) Maintaining cleanliness of environment and work habits to prevent the spread of infection from one patient to another or from patients to personnel.

b. Arrangement of Dispensary. The following areas should be provided and clearly identified—

(1) *Appointment desk.* This is the clerk's work area. It should be near the entrance and be arranged for efficient registration of patients and maintenance of records.

(2) *Reception or waiting room.* This room is used by the patients and their families who are waiting for the doctor, for treatments, or for reports of tests. It should be near the appointment desk. It should be equipped with an adequate number of comfortable chairs; ash trays, if smoking is permitted; and a coatrack for overcoats. The area should be arranged as attractively as

conditions will allow and must be kept clean, orderly, and well ventilated.

(3) *Doctor's office.* Each doctor should have a private area in which to see patients. Handwashing facilities must be provided when the examination area is located in the doctor's office. Screens or curtains for privacy should be used when patients are dressing and undressing.

(4) *Examining area.* This is usually in or connected to the doctor's office. Minimum requirements include—

(*a*) Hand washing facilities.

(*b*) Table, examining, with pad.

(*c*) Light, floor (gooseneck lamp).

(*d*) Waste receptacle, sanette, step-on type.

(*e*) Stool, revolving, adjustable.

(*f*) Screen or curtain for privacy.

(*g*) Examination tray or supply table with equipment such as—

Otoscope ophthalmoscope
Flashlight
Sphygmomanometer
Stethoscope
Mirror with headband
Hammer, reflex testing
Gloves (clean, for rectal examination)
Lubricant, surgical
Tissues
Paper towels
Tongue depressors, applicators, gauze pads
Slides, microscope
Culture tubes

(*h*) Bedsheet (to be on the table or readily available) and hand towel.

(*i*) Scales (since one per dispensary is usually allowed, the scales may be kept in the waiting room, for ready accessibility).

(5) *Treatment room.* The treatment room contains supplies and equipment required to carry out treatments prescribed by the doctor following his interview and examination of the patient. The level of supplies (type and quantity) should be established and posted; however, the treatment room should not be used as a general storage or supply area. Required furniture and equipment include—

(*a*) Hand washing facilities.

(*b*) Table, examining, with pad.

(*c*) Light, floor (gooseneck lamp).

(*d*) Cabinet, medicine, with locked compartment.

(*e*) Supply table or dressing cart.

(*f*) Waste receptacle, sanette, step-on type.

(*g*) Desk or table.

(*h*) Chair for specialist.

(*i*) Chair for patient.

(*j*) Refrigerator.

(*k*) Stand, irrigating.

(*l*) Stand, instrument (Mayo type).

(*m*) Cabinet with inclosed shelves for sterile supply level.

(6) *Minor surgery room.* When required, a room separate from the treatment room should be equipped and maintained ready for use in the same manner as an operating room. This room should be reserved for aseptic surgical procedures and should be used for no other purposes.

(7) *Emergency equipment area.* Emergency supply items must be readily available. The suggested location for this equipment is in the treatment room in a safeguarded but unlocked area, clearly identified with a sign "Emergency Equipment." Emergency equipment should include the following items—

(*a*) Oxygen cylinder strapped or secured on a carrier, with gage, humidifier, mask, and wrench attached. The equipment must be ready for use.

(*b*) Resuscitator-inhalator-aspirator apparatus (manual or mechanical unit) (para 6-16).

(*c*) Suction—aspirator apparatus.

(*d*) Airway, pharyngeal.

(*e*) Antianaphylaxis (emergency stimulant) tray.

(*f*) IV injection sets.

(*g*) IV injection solution, as prescribed.

(*h*) Tourniquet.

(*i*) Stand, irrigator.

(*j*) Poison antidote supplies.

(*k*) Gastric lavage tray.

(8) *Pharmacy.* A separate room for pharmacy operation is desirable. A safe, vault, closet, or other approved locked storage area for storing alcoholic liquors, narcotics, poisons, habit-forming drugs, and other controlled-distribution drugs is essential.

(9) *Centralized Materiel Section* (*CMS*). The space and equipment requirements will vary, depending upon whether the dispensary receives all sterile supplies from a parent hospital unit or

whether it must prepare and sterilize its own supplies.

(*a*) Units receiving sterile supplies from a hospital should provide separate storage spaces for sterile supplies, clean storage or utensils and technical equipment maintained by the unit, and a clearly designated area for used equipment to be returned to the hospital CMS.

(*b*) Units that prepare and sterilize their own supplies should set up and operate the section in accordance with TM 8-275. The total area provided must be adequate for a clearly defined work-flow, starting with an area for receiving used equipment and followed by an area for breaking down, sorting, washing, and sterilizing.

(10) *Utility room.* This area for general cleaning and sanitizing of utensils and similar equipment requires a sink, sanitizer for utensils, and a storage area for cleaning supplies.

NOTE

When space is limited, the utility room must often be used as the only available place for the soiled linen hamper, waste disposal can, mop and broom rack, etc. When used for such purposes, it is not an appropriate place for storing clean utensils and other clean but nonsterile equipment.

(11) *Patient care ("quarters") unit.* When the dispensary provides overnight or more prolonged accommodation for "quarters" patients, the unit is set up as a hospital ward. Each patient requires a bed, bedside stand, chair, and a locker or other facility for his clothing. In providing a patient care unit, consideration must be given to the need to define areas for—

(*a*) Nurses' station or office.

(*b*) Examining and treatment room.

(*c*) Food service area.

(*d*) Latrine and shower facilities for patients.

(*e*) Utility room.

6-6. Dispensary Equipment and Supplies

a. General. A dispensary will be provided with the equipment needed to carry on its activities. In some instances, equipment will be provided as prescribed in applicable tables of organization and equipment. In other instances, a dispensary may function with equipment prescribed by a table of authorization, or it may get its equipment by allocation from the commanding officer of the parent treatment facility. The local SOP on equipment and supplies, based on information contained in AR 735-35, should include—

(1) Responsibility.

(2) Source.

(3) Stock levels to be maintained.

(4) Procedure for ordering expendable and nonexpendable items.

(5) Procedure for obtaining emergency supplies.

(6) Procedure for turn-in of excess or unserviceable equipment.

(7) Maintenance responsibility of dispensary personnel (preventive or first echelon maintenance measures).

(8) Procedure for requesting repairs.

b. Expendable and Nonexpendable Property. Property is a term which encompasses all supplies, equipment, instruments, and other materials having monetary value. Property is classified as expendable or nonexpendable. Accounting procedures differ for each classification. Economy in use is essential for either classification.

(1) *Nonexpendable property.* These are items costing over $10.00 which are not consumed in use and which ordinarily retain their original identity during the period of use. Nonexpendable property is accounted for in the property book.

(2) *Expendable property.*

(*a*) These are items which are consumed in use. All medical items of a value of $10.00 or less are automatically considered expendable; those having a value in excess of $10.00 must be officially declared expendable by The Surgeon General of the Army.

(*b*) Two terms used in describing expendable items are "consumable" and "durable." Consumable items are not durable in nature and cannot be reused for the same purpose. Examples are drugs, solutions, and dressings. Durable items do not lose their identity when used and can be reused for the same purpose. Examples are surgical instruments and linen.

(*c*) Formal inventories of expendable property are not required by regulations; however, inventories should be made in preparing periodic requisitions to maintain authorized stock levels properly.

c. Supply Levels. Reasonable supply levels for each expendable item of supply must be established at unit or dispensary level to enable the supply system to function properly. The level for each item should be the amount or number of that item that normally is used within a given period of time or requisition period. The medical supply officer will determine from usage factors the amount of each item expected to be used within a requisitioning period and will increase this usage factor to include a level to assure sufficient supply until a requisition is filled. This figure is the maximum level of supply or the maximum quantity of each item authorized to be on hand or on requisition at any one time.

(1) Initial stock levels for TOE units are established by the TOE itself.

(2) Levels of supply should be examined and adjusted periodically because usage factors change as personnel, mission, and workloads vary.

d. Guides for Equipment Care and Maintenance. Equipment maintenance by the user (preventive or first-echelon maintenance) is an essential element of supply economy. The following recommendations are guides in care and proper maintenance of equipment:

(1) Have on hand and be familiar with the manufacturers' operating instructions and military operation manuals. Keep these in a clearly identified file.

(2) Upon receipt of new equipment, incorporate pertinent instructions into local user and maintenance SOP.

(3) Set up a daily schedule for maintenance as a routine part of the day's duties. Routine inspection and operational checking of equipment will reveal the need for making minor replacements of parts; *for example,* rubber tubing, batteries, and light bulbs.

(4) Keep equipment clean. Remember that different kinds of equipment require different care; however, the habitual use of an appropriate wiping cloth to keep equipment free of dust can and does cut maintenance costs and effort.

(5) Follow the manufacturer's instructions for periodically oiling or lubricating moving parts.

(6) Tag unserviceable equipment conspicuously and turn in as promptly as possible. Find out from the local supply officer the policy established for both issue and turn-in equipment. Use DD Form 1150-1 for requesting items from the medical supply officer.

Section II. ROUTINE GENERAL ACTIVITIES

6-7. Routine Dispensary Duties

The dispensary must be kept ready so that patients can be received and treated in a clean and orderly environment. A common and workable method is to establish an SOP for daily and periodic routine duties that will not interfere with a smooth, uninterrupted flow of patients and that will take advantage of periods when the unit is free of patients. Each individual should have an assigned area of responsibility, to include treatment rooms, examining rooms, and rooms in common use such as waiting room, latrines, and corridors.

a. Daily Measures.

(1) At the beginning of the day and before treatment of patients begins, air the dispensary; check emergency equipment, sterilizers, and treatment area supply levels (drugs, linen, instruments, utensils); check handwashing facilities for soap and paper towels; make a final check for dust and for orderly arrangement of equipment.

(2) As a concurrent measure throughout the day, check examining and treatment rooms after each use, to include removing all soiled linen, instruments, and gloves; replace clean supplies as required; and wipe up spills on floor and furniture immediately.

(3) During the noon period, air the waiting room and treatment area. Restore order for the afternoon's operations.

(4) At the end of the day, carry out general cleanup measures in order to have the dispensary in readiness for the next day's operation. As each area is cleaned, restock and arrange all equipment in its proper place. Daily cleanup measures include damp dusting all furniture and damp mopping all floors, to include corners and behind doors.

b. Periodic Measures. Although these measures are not necessarily a part of the daily routine, observe them constantly and accomplish the following at periodic intervals: cleaning windows; cleaning and replacing bulbs in ceiling lights; washing walls and woodwork; cleaning radiators and baseboards; caring for floors, such as removing wax, rewaxing, and polishing; and cleaning and rearranging cabinets and storage shelves.

6-8. Patient Receiving and Records Activities

a. General. The dispensary medical specialist works closely with and may perform part of the duties in the receiving and records section of the dispensary. This section usually includes the reception and appointment desk and the records file. Organization of procedures at this station is essential to assure that: (1) all individuals are received in a courteous, friendly, and professional manner; (2) all patients are seen by a doctor with minimum delay; and (3) emergency cases are seen first. Regardless of his reason for coming to the dispensary, each individual who requests to see a doctor must be permitted to do so.

b. Routine Procedure. Routine procedures established for the receiving and records stations should include an SOP for—

(1) Handling records.

(2) Recording examination and treatments.

(3) Obtaining X-ray, laboratory studies, and other diagnostic measures such as consultations.

(4) Making appointments.

(5) Referring patients.

(6) Filing diagnostic reports returned to the dispensary as the referring activity.

(7) Making necessary entries on the daily worksheet, in a ledger, or on machine records cards to facilitate preparation of the monthly Outpatients Report, DA Form 3537.

c. Ethical Aspects.

(1) *Privileged information.* Information given by the patient to the doctor and all medical and health records are privileged information in connection with professional medical care. The individual authorized access to information which is privileged or to information which would cause embarrassment to the patient will not reveal this information to those not officially concerned with the patient's medical treatment.

(2) *Chaperonage of female patients.* When medical examination or procedures are performed on adult or child female patients, a female nurse or attendant must be present. When female personnel are not assigned to the dispensary, it is important to request that the husband, the parent, or a responsible female adult remain in the dispensary waiting room on call as needed as a chaperon. The male medical specialist assisting with patient care must make certain that an appropriate chaperon is present before preparing the patient for examination, before advising the doctor that the patient is ready for examination or treatment, or before performing any procedure himself.

d. Interpersonal Relations. The manner in which an individual is received when he comes to the dispensary desk and the things he observes while in the receiving area or waiting room create a lasting impression. The family member or friend who accompanies the patient is also concerned with the care and attention received. Four factors which foster good interpersonal relations under all circumstances are courtesy, concern for the individual, sympathetic understanding, and helpfulness.

6-9. The Health Record

a. General. The health record is a permanent, locally available file of records prepared for an individual as he receives medical and dental care. Each contact a person has with medical service as a patient during his military career is recorded in his health record. This health record is divided into two sections: (1) the health record jacket (DD Form 722); and (2) the health record dental folder (DD Form 722-1). The main purpose of the health record is to insure that information on the medical and dental care of an individual is immediately accessible to medical or dental service personnel except during active combat. (Paragraph 6-37 gives information on using DD Form 1380 (U.S. Field Medical Card) in forward combat areas.)

(1) When an individual is at his station, his health record is filed and maintained in the dispensary or other medical treatment facility where he receives primary medical care and in the dental clinic furnishing his dental service. Filing the health record must be in accordance with AR 40-403 and AR 340-18-16.

(2) When an individual is hospitalized, his health record is made available to the hospital.

(3) In combat areas, the health record is filed with the personnel records.

(4) When an individual has a change of station, his health record is forwarded with his personnel records.

b. Contents of Health Record Jacket.

(1) Abstract of Service, Health Record.

(2) Chronological Record of Medical Care (SF 600).

(3) Immunization Record (SF 601).

(4) Report of Medical Examination (SF 88).

(5) Report of Medical History (SF 89).

(6) Other documents of medical significance as described in AR 40-403.

c. Chronological Record of Medical Care (SF 600). The Chronological Record of Medical Care is one of the most important forms in the health record. Each event involving medical care in a person's military health history is recorded on it.

(1) This form is the basic outpatient medical record for all military personnel on whom health records are kept. Every appearance of military personnel for outpatient care at a dispensary or other medical treatment facility should be recorded on it. In addition, this form is used to record a person's admission to hospital or quarters, except under combat conditions.

(2) Entries should be made at the time the patient is seen. Ordinarily, entries in the Chronological Record of Medical Care are made by writing in blue or blue-black ink, but they may be typewritten except when penciled entries are authorized for designation of grade and organization. An entry should include a concise description of symptoms, diagnosis, treatment given, and the name of treating organization. Each entry should be dated and signed by the physician or other person who attends the patient or makes the entry.

(3) When a patient is referred for a consultation or a treatment which will be conducted in an area outside the dispensary, the health record containing the currently used SF 600 usually must accompany the patient or be sent by separate messenger to the referral area. A definite method of signing out the record and returning it promptly to the dispensary must be provided for at the local level. In some instances, the patient may be instructed to call at the dispensary and pick up his record before reporting for his special appointment; in other instances, the clinic to which he has been referred obtains the record in advance of the appointment.

d. Outpatient Medical Record; DA Form 3555. This form is used for recording outpatient care given to military dependents, retired military personnel, and others for whom a health record is not kept.

6-10. Outpatient Report (DA Form 3537)

a. The outpatient report is one of four standard reports prescribed by the Department of Defense for use in the Army and other military medical services. AR 40-419 contains instructions for its preparation. It is prepared and submitted monthly by each separate functioning Army medical treatment facility. A dispensary which is not required to prepare the report must usually provide information to its parent facility, and for this purpose, may use a daily worksheet, a ledger, or machine data cards as prescribed by local policy. The outpatient report gives data on medical care furnished to outpatients, such as—

(1) Outpatient visits and treatments.

(2) Various types of physical examinations.

(3) Immunizations.

(4) Certain diagnostic and treatment procedures.

b. Information on the outpatient report is essential in the preparation of budget estimates, in the analysis of personnel requirements and use, and in evaluation of morbidity (sickness) levels receiving medical attention but not hospitalized.

6-11. Sick Call

Sick call (AR 40-2) is a daily assembly of sick and injured military duty personnel, held each day at a designated place and time, to provide routine medical examination and treatment for persons on duty status. Military personnel not reporting for medical treatment at sick call are seen on an appointment basis except that in an emergency they are seen at any time. After examination, patients medically unfit for duty are admitted to a hospital or confined to quarters. Patients not admitted will be given any necessary treatment. When excused from duty for medical reasons which do not indicate a need for hospitalization, military personnel may be authorized to occupy a bed in a dispensary or to remain in quarters.

a. Individual Sick Slip. Each person who comes to the dispensary on sick call should present an Individual Sick Slip (DD Form 689). The sick slip is prepared in the individual's unit orderly room. It is used to inform the unit commander of the status of a man in his command who has reported on sick call. After examination and treatment of the patient, the attending medical officer indicates the disposition of the patient on the sick slip, which is returned to the unit commander. In exceptional cases, the treatment facility initiates the sick slip; *for example,* when an individual reports directly to the treatment facility in an emergency. Although the sick slip is not a part of the health record, it is an important means of communication in regard to the individual's duty status.

b. Dental Sick Call. Local policy may prescribe use of an Individual Sick Slip in connection with routine requests for dental attention. Provisions are made in each dental clinic to hold dental sick call. A definite period is set aside, and personnel report directly to the dental clinic, not to medical sick call. In a dental emergency, as in a medical emergency, patients are seen at any time. A dental officer of the day is available during other than normal dental clinic hours. After duty hours, personnel usually report to their regular dispensary or clinic, and dispensary personnel call the dental officer of the day.

6–12. Holding Sick Call

NOTE

This is a typical sick call procedure which is subject to modification locally.

a. Military Personnel, Usual Procedure.

(1) On arrival at the dispensary, the individual reports to the dispensary clerk and gives him the Individual Sick Slip. The clerk checks each slip to see that it contains the necessary information (individual's name, service number, grade, and organization).

(2) The clerk takes each patient's health record from the file for use by the attending doctor. The date of the patient's appearance on sick call is entered in the patient's Chronological Record of Medical Care (SF 600).

(3) A medical specialist receives the health record from the clerk; observes the patient; questions him about his complaint or condition; and takes his temperature, pulse, and respiration for entry on the record.

(*a*) The TPR is taken and recorded as part of the routine examination procedure, since the significance of almost any symptom will change if accompanied by an elevated temperature.

(*b*) The specialist should talk to the patient, listen to his complaints, and observe signs and symptoms of distress or discomfort. Signs and symptoms that are readily observable during the initial contact with the patient include—

Skin (observe lips and nailbeds also, when applicable):
  Temperature—hot or cold to the touch
  Color—flushed or pale
  Rash—location
  Wounds—location, condition of dressing if one is in place
Eyes and Eyelids:
  Pupils—enlarged or pinpoint
  Sclera—white, yellow, or red
  Lids—swollen, encrusted, or clear at lid margins
Complaint of Pain:
  Location
  Start of pain—how and when
  Type—sharp or dull, mild or severe, constant or intermittent
State of Consciousness:
  Alert
  Drowsy
  Orientation to surroundings—knows where he is or seems confused
Nausea or Vomiting:
  Time when started
  If vomited, presence or absence of blood
  Time, content, and source of last meal that was eaten
Temperature, Pulse, Respiration:
  Any marked deviation from normal, which is—
    temperature—98.6° (oral)
    pulse—60 to 80
    respiration—14 to 20
  Abnormalities of pulse rate and rhythm
  Difficulty in breathing
General Posture and Gait:
  Sits and stands with or without difficulty
  Walks with or without difficulty

(*c*) Any patient with an obvious rash, an elevated temperature, a complaint of sore throat, or other upper respiratory symptoms that might indicate a communicable disease should not be left in a common waiting room in close proximity with other patients. A segregated waiting area should be provided. The SOP may be that in such cases the doctor sees the patient in the segregated area before requesting him to come to the examining room.

(4) The health record is taken to the doctor, who is informed immediately of any patient who appears to be acutely ill. The doctor calls in the patients one at a time, questions them, examines them, and determines what treatment they are to have.

(5) If the treatment procedure is one that can be carried out in the dispensary, it will be given either by the doctor or, if he so directs, by a designated assistant.

(6) If further diagnostic study is needed and if this can be done while the patient is on a duty status, the doctor directs the clerk to prepare appropriate forms requesting a laboratory, clinic, hospital, or other suitable installation to do this work.

(7) If the doctor wants medicine dispensed to a patient, he writes a prescription and gives it to the patient, directing him to the dispensary pharmacist. If the medicine is not available in the dispensary, the patient may be instructed to take the prescription to a hospital pharmacy or he may have to return to the dispensary after the pharmacist has obtained it.

NOTE

> Many medical or dental officers prefer to keep a small stock of frequently prescribed medications in their office cabinets for ready use. The doctor gives these drugs in prelabeled containers to the patient and instructs him in their proper use. Drugs dispensed in this manner are customarily prepared for dispensing by a pharmacist.

(8) The doctor makes his entry on the patient's SF 600 and includes his determination of the patient's duty status: to return to full duty; to return to duty with limitations specified; to be relieved of duty for "sick in quarters" or for hospitalization.

(9) The doctor makes his entry on the Individual Sick Slip, indicating his disposition of the patient. (Local policy may include indicating the time that the patient was dismissed from Sick Call.)

(10) If it is necessary to hospitalize a patient, the doctor will direct the transfer procedure in accordance with local policy. An individual medical record is prepared for the patient transferred to the hospital. In some instances the clerk in the dispensary in which sick call is held prepares this record; in other instances the A and D Branch of the hospital Registrar Division prepares it.

(11) Patients requiring relief from duty but not hospitalization are carried as "sick in quarters." An individual medical record is prepared by the dispensary clerk for each such case.

b. Nonmilitary Personnel Seen on Sick Call. When nonmilitary personnel are seen as sick call patients (that is, on a nonappointment basis), the procedures are usually the same as for military patients except that Individual Sick Slips are not used and a decision concerning duty status is not necessary.

c. Screening Patients on Sick Call. During normal sick call hours, the medical specialist may screen patients according to an SOP prescribed by the attending doctor. The screening procedure is done to designate priorities for examination by the doctor. As part of the screening procedure, the medical officer may permit a qualified nonprofessional assistant to evaluate and treat certain minor injuries and ailments, such as a scratch or minor abrasion, a cold with no cough or temperature elevation, or a slight headache. When this type of screening is permitted, the patient must be permitted to see a medical officer if he so requests.

d. Post Treatment Care on Sick Call. Following prescribed treatment in the dispensary, the patient should not be dismissed until he has received any necessary instructions, medications, and future appointments. The medical specialist can do much to insure a better quality of patient care when he is able to reinforce the doctor's instructions by making sure the patient understands what he must do as a self-care measure. It is essential that he check the doctor's order on SF 600 and also check with the doctor so that all instructions he gives are in accordance with the doctor's instructions to the patient. If the patient on sick call has had medications administered which may produce drowsiness, any loss of coordination, or a delayed reaction, the medical specialist may often find it necessary to—

(1) Detain the patient in the dispensary for a period of observation. The patient should not be seated in the common waiting room during this time unless no other suitable area is available. A cot or recovery bed is often provided adjacent to the treatment room for this purpose.

(2) Provide an escort if there is any question of the patient's ability to return alone to his orderly room or quarters.

6-13. Continuing Treatment in the Dispensary

The doctor may order the patient to return to the dispensary for a series of treatments over a period of days. (It may not be necessary for the patient to see the doctor each time he comes to the dispensary for continuing treatments such as soaks, dressing changes, irrigations, repeated injections, or other treatment measures for which a written order has been entered on the patient's SF 600). This general procedure should be followed:

a. The patient reports to the dispensary or clinic at the specified hour.

NOTE

> The original Individual Sick Slip may be used or the patient may have received DA Form 8-97 (Medical and Dental Appointment) at the time the followup appointment was made in the dispensary.

b. The clerk obtains the patient's health record from the file, enters the date, and gives the record to the medical specialist.

c. The medical specialist is responsible for—

(1) Checking the doctor's order on SF 600 before any treatment is given. The order usually includes—

(*a*) Type of treatment.

(*b*) Number and duration of treatments.

(*c*) Dosage of medication.

(*d*) The time that the doctor desires to see the patient.

(2) Carrying out the treatment order. He notifies the doctor if there is an apparent change in the patient's condition. He must not hesitate to ask the doctor if further explanation is needed. He also must make certain that he understands the order and knows how to carry it out.

(3) Instructing the patient regarding any self-care measures and the time when the patient is to return to the dispensary.

(4) Recording the treatment given on SF 600.

(5) Consulting the doctor immediately if:

(*a*) The treatment produces unsatisfactory results.

(*b*) The patient reacts unfavorably to the treatment.

(*c*) The patient desires to see the doctor.

6–14. Emergency Treatment in the Dispensary—General Instructions

Emergency medical treatment is the early care given to the wounded, injured, or sick by trained medical personnel. Specific measures to be applied at the scene of an accident in any situation where an individual's life is endangered are discussed in chapter 8; only some general procedures governing initial management of a patient brought to a dispensary for emergency care are discussed in this section. In the dispensary situation, a medical specialist will function primarily as the doctor's assistant. If he is the first person to see the patient who has come or been brought to the dispensary for emergency treatment, he must know how to do first things first.

a. *Preparation for Emergency Care*. The specialist should be prepared to receive emergency patients. He should make certain that:

(1) He maintains proficiency in applying the basic A, B, C, D measures of first aid—

A. Clear the AIRWAY and restore breathing and heartbeat.

B. Stop the BLEEDING by application of digital pressure to compression points or pressure dressing to the wound.

C. Start shock CONTROL measures by maintaining aeration and blood circulation.

D. Apply a wound DRESSING to protect it from further contamination and control bleeding.

These first aid measures are part of emergency medical treatment and the medical specialist is expected to be expert in their application (ch. 8).

(2) Emergency equipment is ready for use, in its proper location, and immediately available—not locked up.

(3) He knows how to operate all emergency apparatus and how to use all items on an emergency tray. In an emergency, there is no time to look up a technique in a procedure manual, to review an instruction booklet, or to review an SOP.

b. *Initial Patient Care Measures*. The medical specialist should remember the following instructions:

(1) Do not get excited. Do one thing at a time quickly and efficiently.

(2) Take the patient to an examining or treatment area. Assist the patient to lie down with his head level. If he has been carried on a stretcher or litter, do not move him from the stretcher. Unless he is having difficulty in breathing, keep him lying down with head level until the doctor gives other instructions. If he is having breathing difficulty, he may be more comfortable with the head of the stretcher elevated to support him in a semisitting position.

(3) Find out what is wrong. Observe the patient. Ask him if he is in pain and, if so, where he hurts. This brief questioning will help to determine his state of consciousness.

(4) Look for signs of breathing difficulty, bleeding, shock, or poisoning. Treatment of these conditions takes precedence over everything else because they are life-endangering.

(5) Notify the doctor immediately, giving a brief, accurate description of the nature of the emergency and the patient's condition.

(6) Take and record vital signs.

(7) Loosen and remove enough of the patient's clothing to enable the doctor to examine the patient, back and front. Handle the patient gently to avoid injury. If it is necessary to cut his clothing, ask for his permission or for that of an accompanying relative, if possible. Cut clothing along seams, if practicable, so that it can be repaired.

(8) Assist the doctor as needed, obtaining any equipment and carrying out all orders quickly and accurately.

c. Followup Measures.

(1) Assure the patient's relatives or other concerned individuals who have brought the patient to the dispensary that care is being given. Request them to remain in a designated area in the dispensary waiting room until the doctor can see them Make them as comfortable as possible.

(2) Handle the patient's personal possessions as carefully as possible. Safeguard money, identification papers, and other valuables, following the SOP. If eyeglasses, dentures, a hearing aid, or other prosthetic appliance are removed from the patient's person, handle as if they were valuables.

(3) If other patients are waiting for care, explain briefly why their care is delayed.

(4) Plan to review and discuss the emergency situation with the doctor and other dispensary personnel afterward—how it was handled, what deficiencies were noted, and what must be done to improve the handling of future emergencies.

6-15. Accident Reporting

a. Installation commanders are authorized to make use of a duplicate copy of the sick slip in lieu of DA Form 1051 (AR 385-40) in cases of nonbattle injury of Army active duty military personnel for whom sick slips are ordinarily prepared. The individual initiating the sick slip will check the "Injury" box at the top of the form. Two copies of the form will be initiated for all injury cases, including suspected poisoning cases. After the medical officer's section of the form has been completed, the second copy of the slip will be forwarded to the safety officer concerned by means of a Memo Routing Slip (OF 41).

b. DA Form 1051 (Record of Injury) when used, is initiated in three copies by the supervisor of the individual concerned, and delivered by the patient, if possible, to the dispensary or first aid station. After the medical officer or medical attendant has completed his section of the form, distribution is made as follows: first copy returned to supervisor; second copy retained by medical treatment facility; third copy forwarded to safety officer concerned.

6-16. Resuscitator—Inhalator—Aspirator Apparatus

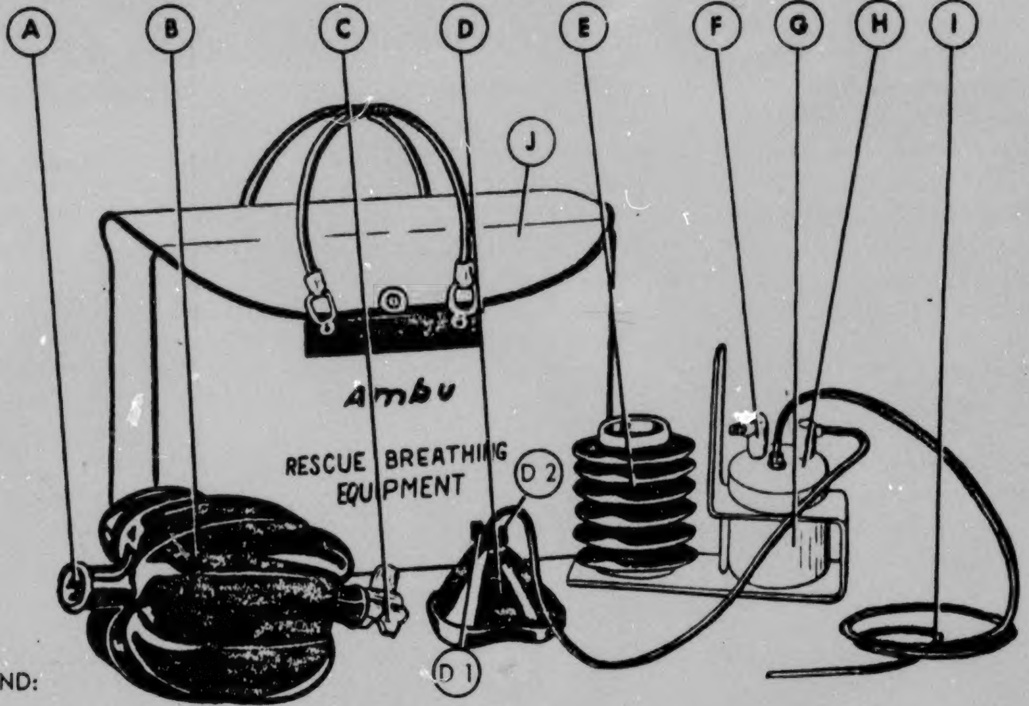
a. General. A resuscitator-inhalator-aspirator apparatus is a multipurpose lifesaving instrument serving as (1) a resuscitator when there is no breathing or when breathing assistance is needed because of difficult, slow, or very shallow respirations; (2) an aspirator (suction apparatus) when the airway must be cleared of mucus, vomitus, or blood; and (3) an inhalator when oxygen is administered. Several kinds of units are available for use in outpatient clinics, ambulances, dispensaries and other areas in which emergency medical care is provided. The different types available as TOE or as stock items for issue on requisition are illustrated: a manual-cycling (hand-pressure-operated) portable unit (fig. 6-1); a pulmotor-type, automatic-cycling portable unit which requires attachment to an oxygen cylinder (fig. 6-2); and a mobile unit similar in appearance to an anesthesia machine (fig. 6-3), which requires attachment to an oxygen cylinder for operation as a resuscitator and inhalator and an electric outlet for its motor-powered aspirator. Regardless of the type of apparatus used, key points to remember are as follows:

(1) Know how to use the available apparatus at a moment's notice.

(2) Inspect, maintain, and test the apparatus at regular, scheduled intervals.

(3) When resuscitation is needed, do not wait for the apparatus. Start mouth-to-mouth respiration and continue this "rescue breathing" until the mechanical apparatus is in readiness for use.

(4) Keep the patient's head tilted backward, his lower jaw forward and raised upward, and his tongue pulled forward to maintain an open airway. The apparatus is useless if air does not reach his lungs. Do not hesitate to use fingers to sweep



LEGEND:

A – INLET VALVE, FOR AIR OR OXYGEN.
B – RESUSCITATOR BAG, FOR HAND COMPRESSION.
C – VALVE ASSEMBLY FOR INHALATION-EXHALATION.
D – ORONASAL MASK. NOTE: FIT MASK VALVE (D 1) ON TO VALVE ASSEMBLY. THE NARROW END OF THE MASK FITS OVER THE NOSE. THE MASK INFLATION VALVE (D 2) IS USED TO INFLATE THE CUSHION RIM OF THE MASK TO INSURE AN AIR-TIGHT FIT OVER THE NOSE AND MOUTH OF INDIVIDUALS WITH DIFFERENT FACIAL DIMENSIONS. NOTE: IF AN INFLATION BULB IS NOT SUPPLIED WITH THE EQUIPMENT, USE THE BULB FROM A SPHYGMOMANOMETER.
E – ASPIRATOR BELLOWS, FOR FOOT-OPERATION OF ASPIRATOR.
F – OVERFLOW VALVE.
G – PLASTIC SECRETIONS BOTTLE.
H – DETACHABLE SEALING CAP FOR ASPIRATOR.
I – ASPIRATOR TUBE ASSEMBLY, FOR OROPHARYNGEAL SUCTIONING.
J – CANVAS CARRYING CASE (BRIGHT YELLOW IN COLOR).

Figure 6–1. Manual-cycling, portable resuscitator-aspirator unit, hand operated.

tongue forward and clear air passage—if patient is not breathing and is unconscious, he cannot bite.

b. General Instructions.

(1) Study the instruction booklet on operating and caring for the unit available. Instructions and diagrams are provided by the manufacturer; in most instances, basic instructions are imprinted on a label mounted on the lid of the carrying case, and a booklet supplementing these instructions is in a holder in the case.

(2) Test the equipment at regular, scheduled intervals. Do not merely open the case and look at the apparatus; put all parts together and operate it.

(3) Never store the apparatus after use until all parts have been cleaned and checked and are known to be workable.

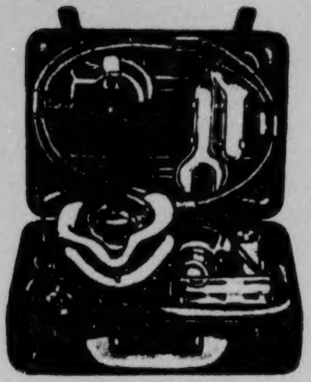


Figure 6-2. Resuscitator-inhalator-aspirator, portable (pulmotor-type, automatic cycling.)

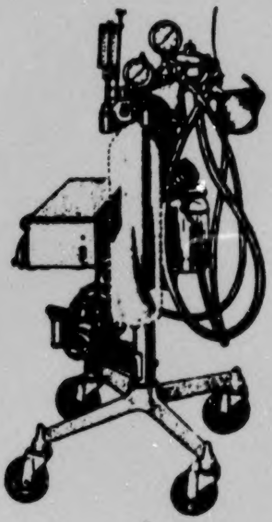


Figure 6-3. Resuscitator-inhalator-aspirator, mobile.

(4) Know how to connect and use the oxygen cylinder provided for emergency use with the portable resuscitator. A small (size D) cylinder is customarily used. With some models, the oxygen cylinder is carried in the lid or base of the resuscitator case; with other models, a cylinder of oxygen must be carried as separate equipment. When the cylinder is not an integral part of the resuscitator unit, a yoke adapter (fig. 6-4) must be used with the size D cylinder; the adapter permits connection of the cylinder with an oxygen regulator for administration of oxygen. Always check to insure that the cylinder actually contains oxygen; never leave an almost empty or empty cylinder adjacent to or attached to the resuscitator. When full, the small (size D) cylinder contains approximately 350 liters of oxygen.

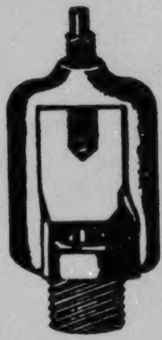


Figure 6-4. Yoke-adapter for connecting oxygen regulator to size D cylinder.

(5) Forbid smoking when oxygen is in use. Bystanders at the scene must be reminded, as habitual smokers tend to light up a cigarette during periods of stress or nervous tension.

(6) Remember, the apparatus and the operator together are the lifesaving team. The operator must know how to use the apparatus and must also watch and listen for patient response to resuscitation.

- Watch for rise and fall of the patient's chest, indicating breathing is taking place. For an adult, a rate of 12 to 14 times per minute is usually advised; for a child, a rate of 20 per minute.
- When the mask is in place, watch for vomiting. Remove the mask immediately and use the aspirator to clear the back of the throat.
- Watch the patient's eyes for movement and response of the pupils to light. In acute anoxia, the pupils are widely dilated; as the lungs become aerated and oxygen is made available to the tissues, the pupils will start to constrict. Raise the eyelids gently to check for pupil response.
- Watch the patient's skin and nailbeds for return of pink color. In acute anoxia, the color is ashy or cyanotic.
- Listen for snoring or gurgling sounds from the patient when the manual operated apparatus is used and for rapidly fluttering or chattering sounds when the automatic cycling apparatus is used. Either type of sound indicates that the patient's airway is blocked and therefore air is not getting into his air passage. Correct the elevation of the patient's chin—tilt his head back until the chin points to the ceiling. If this does not correct the obstruction, remove the mask and suction the airway. Then immediately

reapply the mask, making sure that there is an airtight seal over the nose and mouth.

(7) Be prepared to initiate mouth-to-mouth resuscitation immediately if the mechanical apparatus fails to maintain respiration. Remember, an automatic-cycling model requires an oxygen supply: if the supply is used up before the patient is breathing spontaneously, the apparatus is useless.

(8) When the patient begins to breathe spontaneously, adjust operation of the mechanical apparatus to assist the patient. Do not make him fight the apparatus; he may be dazed or semiconscious and cannot be expected to understand verbal instructions to "breathe with the machine."

(9) Continue rescue breathing efforts, either by means of the apparatus or by mouth-to-mouth resuscitation until a doctor is present and gives other instructions or until the patient is breathing regularly on his own.

(10) When normal respirations have been reestablished, continue oxygen administration by mask (if oxygen is available) if there is any sign of oxygen deficiency.

6-17. Administration of Medications in the Dispensary

a. General. The approved procedures for administering medications are described in chapter 4. Since deviation from an approved technique in pouring or administering a medication increases the possibility of error, any modification or variation of these procedures should be in accordance with a local, written SOP approved by and signed by the dispensary surgeon. Many complex and potent drugs are available for use upon prescription by the dispensary surgeon, and the dispensary specialist is often expected to assume far more individual responsibility for their administration than he normally would assume if assigned to a hospital ward. Most drugs administered in the dispensary are single-dose orders administered to an individual patient on a nonrepetitive basis. These steps should be followed:

(1) Take the patient's health record in which the doctor's order is written on SF 600 to the medication cabinet. Check the drug container label against the written order, reading the label 3 times as required for pouring or preparing medication.

(2) When SF 600 cannot be used, copy the order exactly as written on a slip of paper. Write the patient's name on the slip of paper. Do not rely on memory—use an accurately written notation.

(3) Identify the patient by name before administering the medication.

(4) In recording medications administered in the dispensary, use SF 600. Record time of administration and your signature.

b. Handling and Storing Medications. These steps should be followed:

(1) Handle and store medications in accordance with AR 40-2 and the SOP established by the dispensary surgeon.

(2) Store medications in a special locked cabinet used only for that purpose.

(3) Store narcotics and other controlled drugs (AR 40-2) in a separate locked compartment of the locked medicine cabinet. The responsible officer must account for these drugs. Keep medicine cabinet locked when not in use. Guard medicine cabinet keys and narcotic compartment keys according to the SOP established by the dispensary surgeon.

(4) Store drugs that are required by instructions on the label to be kept refrigerated in a refrigerator provided for this purpose.

NOTE

Drugs, food, and laboratory specimens require separate refrigerator units.

A thermometer must be kept in the refrigerator to insure that prescribed temperature conditions are being met.

(5) Store internal and external medications on separate shelves.

NOTE

In accordance with labeling requirements of the FDCA, some drugs must be clearly labeled "POISON" that under prescribed conditions are administered internally. Drugs for internal use bearing a "POISON" label need not be stored separately from other internal drugs.

(6) Keep medicine cabinet adequately stocked but avoid overstocking.

(7) Keep medicine storage areas clean and orderly.

(8) Rotate medications so that fresh medications are placed to the rear when duplicate containers are on the shelf. Use older stock first.

(9) Return all containers with soiled or illegible labels to the pharmacy. Do not relabel containers.

(10) Do not transfer contents from stock bottles to other storage containers.

(11) Keep list of expiration dates of medications prominently posted. Check list daily and return medications with an outdated label to the pharmacy. Request pharmacy to place new expiration date on outer container and medication bottle when expiration date of a medication has been extended by official supply bulletin (SB) notification.

6-18. Dispensing Medications in an Outpatient Medical Treatment Facility

a. General. The term "dispensing" is defined as that branch of pharmacy which is concerned with the distribution of medications, especially with the filling of prescriptions. As established by AR 611-201, duties of the medical corpsman (MOS 91A) include dispensing simple medications and the duties of the medical specialist (MOS 91B) include dispensing medications for minor injuries and ailments. In practice, the role of the medical specialist in relation to dispensing drugs must be defined in a local policy directive which will establish and limit the duties to be performed in the absence of a pharmacy specialist. For example, duties may be limited to handing a specific drug, prepared by a pharmacist and contained in a properly labeled and pre-filled dispensing container, to an authorized individual, in accordance with a written authorization by the dispensary surgeon. In this example, the medical specialist does not fill a prescription. Dispensing of medications by the medical specialist is usually confined to aid station operation, where a pharmacist is not available and medications are dispensed from a medical chest. The medical specialist follows directives provided by the battalion surgeon for use of medications available. He dispenses only permissible quantities, using the drug dispensing envelopes or other containers provided. Drug dispensing procedures are never, under any circumstances, an indiscriminate handing out of available drugs from the drug supply storage area, medical supply chest, or pharmacy section of the facility.

b. Designation of "Simple Medications." There is no one authoritative list of "simple medications" or "medications for minor injuries or ailments" for ready reference by the medical specialist. Drugs on the following list are examples of what may be considered appropriate for him to dispense, under the conditions established by the local directive, when dispensed in the amounts indicated and prepared for dispensing under the procedural controls established by the local pharmacy officer. All of the drugs listed are standard, noncontrolled, FSC class 6505 items.

(1)	Alkaline Aromatic Mouthwash	120 ml.
(2)	Aluminum Hydroxide Gel, Liquid (Amphojel)	120 ml.
(3)	Aluminum Hydroxide Gel, Tablets	25 tablets
(4)	Aspirin Tablets, 0.3 Gm.	25 tablets
(5)	Calamine Lotion, Phenolated and Metholated	120 ml.
(6)	Foot Powder, Fungicidal 1-oz. can	1 can
(7)	Glyceryl Guaiacolate Syrup Plain (Cough Syrup)	60 ml.
(8)	Mineral oil	120 ml.
(9)	Phenylephrine Hydrochloride Solution, 0.25% (NeoSynephrine nosedrops)	15 ml.
(10)	Sodium Bicarbonate Tablets, 0.6 Gm.	25 tablets
(11)	Sodium Chloride Tablets, 0.6 Gm. (Salt tablets, uncoated)	25 tablets
(12)	Thimerosal Tincture	15 ml.
(13)	Undecylenic Acid Ointment, 1 oz. tube (Fungicidal Ointment)	1 tube
(14)	Zinc Oxide Ointment, 1-oz. tube	1 tube

6-19. Nursing Techniques and Procedures in the Dispensary

The more common treatments ordered by the dispensary surgeon and carried out by the dispensary specialist by the direction of and under the supervision of the doctor (or nurse, when one is assigned) include many basic nursing procedures discussed in chapter 5. Unless otherwise specified, no modification in carrying out these procedures is necessary or advisable, whether they are performed in a hospital ward or in a dispensary treatment area. In the dispensary, the treatment room or other designated patient care area is usually the locale for carrying out the procedure instead of at the bedside. When a procedure is to be done with the patient lying down, he is positioned on a treatment table, litter, wheeled

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stretcher, or cot, in lieu of the conventional hospital bed. With few exceptions, standard equipment listed and illustrated in the Federal Supply Catalog will be used. This equipment is cared for in the same manner as on a hospital ward. The special points to be emphasized are:

a. In the dispensary, the medical specialist must often carry out procedures with minimum direction from the doctor and often with no direct supervision by a professional nurse. He must therefore make certain that he understands the doctor's order and knows how to carry out the prescribed procedure in a safe and effective manner.

b. When questions or problems arise in relation to nursing activities in an Army Medical Department facility that functions without an assigned nurse, the medical specialist requests, through his medical officer, the nursing consultation services available from Army area headquarters (para 1–21*e*).

6–20. Dispensary Ward Unit

a. General. Personnel, supplies, and equipment, in accordance with the TDA or TOE under which the unit operates, are provided for a dispensary with the requirement for setting up a ward unit. As in the clinic area of the dispensary, the ward unit functions under the direct supervision of the dispensary surgeon. In the absence of a nurse, the surgeon would probably delegate ward management activities to the senior clinical specialist (MOS 91C40), who would then function in a role comparable to that of a head nurse on a hospital ward, as well as serve as wardmaster. In this dual role, the designated individual must be clinically competent in his military occupational specialty and also able to carry out administrative, supervisory, and teaching functions.

b. Ward Management Activities. Dispensary ward management activities should follow the same general pattern as that of a hospital ward, with the necessary adaptations made to fit the needs of the operating unit. Whether the ward has few or many patients, efficient management methods must be employed so that all patients receive the medical and nursing care required, day and night. In conjunction with the dispensary surgeon, the designated wardmaster should select specific administrative procedures and incorporate these concepts into the dispensary ward SOP. Two useful nursing service tools of administration will be—

(1) Preparation of a master list of ward duties. This is based on the determination of all the activities necessary for functioning and maintenance of the ward. All routine, recurrent duties are then grouped as Duty 1, Duty 2, Duty 3, etc., and the consolidated list is posted prominently on a ward personnel bulletin board or in a centrally located SOP notebook.

(2) Use of the Nursing Service Assignment Roster (DA Form 8-246). This form is used to consolidate the assignment of duties on a 24-hour basis for each nursing member of the ward for one week in advance. It shows assignments of patients for nursing care, allocation of ward management tasks by master list grouping, coverage for meal hours, etc.

(3) See chapter 9, section V, for further details about ward administrative activities.

c. Special Considerations.

(1) *Nursing techniques and procedures.* Follow the procedures in chapter 5. For administration of medications, follow the procedures in chapter 4.

(2) *The patient's clinical record.* As in any medical treatment facility, all medical treatment must be recorded as directed by AR 40–400. In a dispensary ward, the clinical record forms which are used and maintained by nursing personnel may vary. For example, the dispensary surgeon may decide that it is practicable to use SF 539 (Abbreviated Clinical Record); or again, DD Form 728 (Doctor's Orders), and DD Form 640 (Nursing Notes), may be used, with these forms filed in a Nursing Book Unit (Kardex). Whatever forms are used, the information entered must be accurate and contain no erasures or eradications.

(3) *Food service for patients.* Food service for patients on the dispensary ward will be provided from the existing field ration mess. Each dispensary unit must establish its own working relations with its designated mess support unit, including arrangements for delivery of meals to the unit and provision of liquid nourishments as prescribed by the medical or dental officer. A major problem in any field-type patient care unit requiring meal service is the prompt and proper care of soiled dishes after every meal, including dishwashing. In a conventional hospital ward, the hospital food service division assumes this responsibility. A dispensary ward, however, is normally not under the jurisdiction of a hospital food service branch. Ward personnel must have a clear

directive on what constitutes ward KP duties. If manual dishwashing must be done, establish an SOP based on AR 40-5. For washing mess gear, follow directives for washing devices as described in FM 21-10.

6-21. Assisting With Physical Examinations

a. General. Physical examinations in dispensaries and physical examining stations are conducted in accordance with AR 40-501. The objectives of military medical (physical) examinations are to provide information:

(1) On the health of the individual.

(2) For initiation of treatment of illness.

(3) For administrative and legal requirements.

b. Planning for Physical Examinations. Examinations are scheduled in advance with the examining facility. When they are conducted in the dispensary instead of in a separate physical examination facility, they are planned for some time other than sick call. This is to help eliminate contact of healthy individuals with sick personnel. The dispensary waiting rooms and examining rooms should be cleaned and aired before being used for physical examinations. The amount of prior planning required to conduct medical examinations efficiently depends upon the number of examinees expected and the number of examining physicians to be assisted. In general, the NCOIC should make the following prior arrangements:

(1) Assign personnel to stations and examination areas.

(2) Provide female personnel to assist the physician with examination of females. Although females are usually referred to a gynecology clinic for the required pelvic examination, other parts of the medical examination require special draping and positioning.

(3) Post signs in the dressing room reminding examinees to carry their valuables with them. The examining facility cannot assume responsibility for lost or missing valuables, and unfortunately losses can and do occur.

(4) When gowns or other drapes are used, provide a clean garment for each examinee and a clearly marked laundry hamper for discards.

(5) Be sure the area to which the examinee is directed for a collection of urine specimen is equipped with handwashing and waste disposal facilities, soap, and towels.

(6) At the conclusion of the examination, be certain that all examinees who require followup consultation appointments or diagnostic study requests remain in the dispensary until they have the necessary appointments, forms, and instructions. Each examinee requiring this followup should be given a DA Form 8-97 (Appointment Form), as a personal reminder.

(7) If the examinee seems puzzled or apprehensive about the results of the examination, refer him back to the examining physician for additional information.

c. Responsibilities of Dispensary Enlisted Personnel. When required or indicated by the examining physician, enlisted medical personnel or civilian employees properly qualified by training and experience may conduct the following phase of the medical examination and record results when appropriate, subject to verification of abnormal results by the physician:

(1) Height and weight.

(2) Blood pressure and pulse rate.

(3) Temperature.

(4) Electrocardiogram.

(5) Venipuncture for serology.

(6) Performance of laboratory procedures on specimens submitted.*

(7) X-rays.*

(8) Visual acuity.*

(9) Color vision.*

(10) Determination of prescription of glasses by lensometer.*

(11) Auditory acuity (audiometry).*

* These procedures normally are not performed by the medical or clinical specialist.

d. Forms Required. Standard forms are used for the medical examination.

(1) Administrative data in the heading of Standard Form 88 (Report of Medical Examination) is entered in advance by clerical personnel. All other entries are made by the physician or, when so indicated by the physician, by the enlisted assistant.

(2) Standard Form 89 (Report of Medical History) is prepared by the examinee before being examined. It provides the examining physician with an indication of a need for special discussion with the examinee. Trained enlisted personnel and qualified civilians may instruct and assist examinees in the preparation of this report but these assistants make no entries other than

information required for date of examination and examining facility. The examinee should be told that his entries and comments are confidential, for use only by the physician. The examinee signs SF 89.

(3) Both SF 88 and SF 89 are filed in the individual examinee's health record.

c. Conduct Required of Medical Specialist When Assisting With Medical Examinations.

(1) Be courteous and considerate of the examinee.

(2) Be alert and ready to assist the physician and the examinee whenever needed.

(3) Anticipate and prepare to meet the physician's and the examinee's needs during the course of an examination.

(4) Perform routine procedures with a minimum of supervision. Such procedures include keeping examining rooms cleaned, restocked, and cleared of contaminated articles.

(5) Keep unnecessary noise and activity to a minimum.

Section III. IMMUNIZATIONS

6–22. General

a. Immunity. Immunity, the individual's resistance to a specific disease or infection, depends upon the presence in the body of protective chemical substances called antibodies. When the body produces its own antibodies, it is termed active immunity. Active immunity results from having an infectious disease or from receiving an injection or inoculation of biological medication which stimulates the formation of antibodies but does not produce the disease. Active immunity may develop in days or weeks, but the protection received will last for relatively long periods of time. Another type of immunity, described as passive, results from the body receiving serum containing antibodies which have already been produced in the body of a horse, rabbit, some other animal, or a human. Although this serum confers immediate protection, the immunity does not last as long. Passive immunity does not stimulate antibody formation.

b. Immunizing Agents. Preparations administered to produce immunity are called immunizing agents. They are known as vaccines, toxoids, and antisera. Both vaccines and toxoids cause the body to produce their own antibodies, bringing about active immunity, while antisera produce passive immunity.

(1) *Vaccines.* These immunizing agents are suspensions of killed, or live but attenuated (altered), bacteria, rickettsia, or viruses. Examples are typhoid-paratyphoid, typhus, measles, poliomyelitis, and smallpox vaccines.

(2) *Toxoids.* These immunizing agents are suspensions of modified toxins, the poisonous products of certain pathogenic organisms. Examples are diphtheria and tetanus toxoid.

(3) *Antisera.* These immunizing agents are preparations of blood serum which already contain antibodies. They are used in emergencies when it is essential to provide protection but there is not time to wait for the body of the exposed or infected person to produce its own antibodies. Examples are tetanus antitoxin, antirabies serum, and immune globulin.

6–23. The Army Immunization Program

a. Immunization Required. The Army requires all its military personnel to be actively immunized against smallpox, typhoid-paratyphoid, tetanus, diphtheria, poliomyelitis, influenza, typhus, and yellow fever. Individuals who will travel to certain areas are also required to be immunized against cholera and perhaps plague. Upon initial induction, recruits are also given adenovirus vaccine. AR 40–562 gives details of requirements, dosage, and administration. Additional information on immunizations and immunizing agents may be found in TB MED 114. Copies of these two publications governing the administration of immunization to members of the Armed Forces and their dependents must be kept readily available at all locations where immunizing agents are administered. Every medical specialist who gives immunizations must read and be familiar with the contents of these directives.

b. Intervals. The intervals prescribed in AR 40–562 are optimum and should be adhered to as closely as possible, but they are minimum intervals and must never be shortened. If a series is interrupted before completion, it should not be started again but should be completed by giving the remaining injections, regardless of time lapse. If a period longer than that prescribed between stimulating (booster) doses has elapsed, the initial series is not repeated. Once a basic series is completed, it need never be repeated—a stimulating does is adequate; the single small booster dose renews the production of antibodies to an effective immunizing level.

c. Immunization Record (SF 601). This form is prepared (in original only) for all military personnel when the initial series of immunizations are given. All immunizations will be recorded on this form which is kept in the health record. It is not only the official record of an individual's immunizations and related data, but is also the source of information for completing the Immunization Certificate.

d. Immunization Certificate. A Public Health Service Certificate (PHS Form 731) (International Certificate of Vaccination) is now used in lieu of the formerly issued DD Form 737, Immunization Certificate. The PHS Form 731 is prepared for but carried by active duty military personnel only when performing international travel. Nonmilitary personnel retain PHS Form 731 as their official record of immunizations received.

NOTE

> Entries for smallpox, cholera, and yellow fever must be authenticated on PHS Form 731 by the Department of Defense immunization stamp and the actual signature of the medical officer. Immunizations other than smallpox, cholera, and yellow fever may be authenticated by initialing.

e. Reponsibilities of the Medical Specialist. As a member of the Armed Forces, a medical specialist is obligated to inform himself concerning the Army Immunization Program (AR 40–562 and TB MED 114). As a member of the medical team the medical specialist will assist others to understand and appreciate the necessity of these immunizations by explaining the program to other soldiers and to their families and dependents. If he works in a dispensary, he will usually be responsible for assisting with and carrying out proper immunization techniques.

6–24. General Rules and Safety Precautions

a. Follow the standing operation procedure of the installation and AR 40–562.

(1) A physician should be physically present or at a specified location known to the vaccinator whenever injections are given.

(2) Always ask the patient and check his Immunization Record or Immunization Certificate for any history of allergic reactions. History of reactions to previous immunization is of great importance; that of allergy to eggs or fowl is important when immunizing agents prepared in eggs are used (influenza, typhus, yellow fever). All allergic patients, as well as those presenting a doubtful history, should be referred to a medical officer for decision as to immunizing procedure.

(3) In case of allergic reaction to the immunizing agent, the following should be ready for immediate use:

- Epinephrine (adrenalin) 1:1000, sterile syringe, sterile needle, and tourniquet. The epinephrine should be in the syringe ready for immediate injection.

NOTE

> It is recommended that the standard cartridge-needle unit be used.

- Pulmonary resuscitation unit.

(4) Follow local policy for questioning women as to whether they are pregnant. Be tactful and discreet when asking this question to avoid unnecessary embarrassment in a public place. This information is important because of the possible effect of certain immunizing agents on the unborn child.

b. Use an individually autoclaved syringe and needle (or sterile disposable) for each injection. Agents should never be combined in one syringe to avoid giving more than one injection to the same individual. Follow local directives for administering more than one immunizing agent at the same time to one individual.

c. Use sterile technique when preparing and giving the injection.

d. Instruct all patients to remain in a designated area of the dispensary or clinic where they may be observed for a possible reaction for 30 minutes after immunization.

6–25. Risks and Reactions

a. Risks. Injection of any substance into the human body is never without some risk; the risk, however, can be reduced to a minimum by following instructions and using sterile techniques when preparing and administering immunizing agents.

b. Types of Reaction.

(1) *Allergic.* Allergic reactions vary in nature, severity, and time of onset. Reactions may

occur immediately and be characterized by collapse of the circulatory system and respiratory difficulty (anaphylactic shock); this reaction must be treated without delay as death can occur. Less severe but serious reactions which occur 20 minutes or so after inoculation may first be noted by the occurrence of urticaria (hives) and pruritis (itching), particularly when the nose itches and sneezing follows.

(2) *General.* Some vaccines after a period of from several hours to a day or two may produce general systemic reactions consisting of fever, malaise (general aches and pains), chills, and gastrointestinal upset, as well as a local reaction of swelling, redness, and tenderness at the site of injection.

(3) *Infection.* An improper technique or use of contaminated agents may result in either a local infection (abscess at site of injection) or a general systemic infection such as infectious hepatitis.

6–26. Immediate First Aid Measures in Anaphylactic Reactions

If an anaphylactic reaction occurs, the medical specialist should—

a. Immediately give 0.5 ml. epinephrine 1:1000 subcutaneously in any available area without stopping to prepare the injection site.

b. If the vaccine or serum injection was given in an arm, put a tight tourniquet proximal (toward the heart) to the site of the injection to delay further absorption of the vaccine.

c. Obtain a physician as soon as possible.

d. Be prepared to assist with venipuncture and other measures which may be required, such as—

(1) Artificial respiration (mouth-to-mouth or mechanical resuscitator).

(2) Intravenous drug administration to maintain blood pressure if the patient is in shock.

(3) General supportive measures such as oxygen inhalation by mask, pharyngeal suction to maintain or open airway, and warmth.

e. Be prepared to provide constant attendance for the first 24 hours after severe reactions. Secondary lapses into shock may occur at any time. The individual is usually admitted to a hospital or dispensary ward unit for observation.

6–27. Storage of Vaccine

The proper storage temperature of different vaccines is always found on the label and must be adhered to.

a. Some vaccines that contain live organisms must remain frozen. Since a considerable amount of variation exists between storage temperatures and potency periods for these vaccines in both the preconstituted and reconstituted forms of the vaccines, it is essential to review instructions on the labels for each vaccine.

b. Other immunizing agents should be kept at ordinary refrigeration temperature; they are relatively stable and do not lose their potency if kept at ordinary outdoor or room temperature (33° to 93 degrees F) for periods up to one week.

WARNING

Freezing these agents should be avoided as it may result in damage.

c. The labels of all immunizing agents also indicate an expiration date, the last date that the vaccine can be used. Vaccines or other immunizing agents must not be used after that date.

6–28. Immunizing Methods

At the present time, polio vaccines are the only Army-used immunizing agents given orally. Smallpox vaccine is the only one given by multiple-pressure technique, a form of intradermal inoculation of the immunizing agent. Under certain conditions at the direction of a medical officer, some immunizing agents can be given by intradermal injections but the usual methods are intramuscular (IM) or subcutaneous (SC) injection. The procedure for injection techniques by syringe and needle is given in paragraphs 4–26 through 4–30. The procedure for giving poliomyelitis vaccine, oral, is prescribed in AR 40–562.

6–29. Multiple-Pressure Technique in Smallpox Vaccination

a. Smallpox Vaccine. This vaccine contains live vaccinia virus. The approved vaccine is lyophilized (freeze-dried) vaccine which is supplied with a reconstituting fluid and special sterilized needles. Directions for reconstituting the vaccine and assembling the vaccine dispenser are found on the vaccine package.

b. Essentials of a Successful Smallpox Vaccination. Successful smallpox vaccination requires potent vaccine. This can be assured only if it has been stored and handled as prescribed on the package. Proper procedure must also be followed in preparation of the vaccination site, care of the site after vaccination, reading and recording the reaction, and revaccinating those with unsuccessful vaccination reactions.

c. Multiple-PressureVaccination Technique.

(1) Instruct the patient to remove his shirt or other garment from the selected arm. The deltoid region is the site of choice, and no part of the garment should be in contact with this area.

(2) Check the skin area. If grossly dirty, clean the vaccination site with soap and water and dry thoroughly. If there is any evidence of a rash, open lesion, pimples, or other skin disorder, refer the individual to the medical officer for his decision on whether to proceed with the smallpox vaccination.

(3) Wash your hands.

(4) Check assembled equipment—

(*a*) Jar of cotton balls.

(*b*) Acetone or ether.

(*c*) Needle, double pronged or bifurcated (special-packed).

(*d*) Reconstituted smallpox vaccine in dispenser.

(*e*) Waste container (preferably plastic lined or double-thickness paper bag).

(5) Cleanse injection site with acetone or ether on cotton ball. Allow to dry thoroughly.

NOTE

Alcohol must not be used as it inactivates the vaccine.

(6) Grasp the underside of the patient's arm and hold skin taut.

(7) Express one drop of the reconstituted vaccine directly from the tip of the assembled vaccine dispenser onto the prepared site.

(8) Hold needle parallel to the skin.

(9) Press rapidly through the drop of vaccine with the tip of the needle. The motion should be perpendicular to the skin, and the needle should be lifted clear of the skin with each stroke. When an initial vaccination is given, apply pressure in this manner 5 times in 5 seconds. All subsequent revaccination require 15 pressure strokes.

NOTE

When using a single-pronged needle, double the number of pressure strokes used. Limit total area of vaccination to an area no greater than 1/8 inch in diameter. A properly performed vaccination should not be so deep as to result in bleeding.

(10) Do not blot excess vaccine unless specifically instructed by the medical officer. If blotting is recommended, use dry sterile gauze. The patient may put on his shirt when the area is dry.

(11) Do not apply a dressing.

(12) Instruct patient not to rub or scratch the vaccination at any time.

(13) Wash your hands.

d. Disposal of Equipment Used in Smallpox Inoculation. Special precautions must be taken to prevent inadvertent parenteral injection (accidental vaccination) by careless handling of waste. Consider all used equipment as infectious.

(1) Discard all waste (dispenser assembly; needle; gauze, if used for vaccine blotting) directly into special waste container.

(2) Place waste container directly into a collecting bag for incineration. Do not touch outer surface of collecting bag with any part of waste container or your unwashed hands.

(3) Wash your hands. With clean hands, secure opening of collecting bag and place it in waste disposal container.

e. Interpretation of Vaccination Responses. The smallpox vaccination site should be inspected by the medical officer (or his designated assistant) 6 to 8 days after vaccination. The "reading" is recorded on: (1) the Immunization Record (SF 601) of military personnel or (2) the Immunization Certificate of nonmilitary personnel and military personnel who require possession of this form for international travel. A successful reaction either on primary vaccination or revaccination should occur if a potent vaccine is properly administered. An unsuccessful vaccination must be rescheduled at the time interval specified by the medical officer who has interpreted the reaction. Individuals receiving smallpox vaccine for the first time may be alarmed by the sequence of events which follow a successful primary vaccination. The medical specialist should be aware of what to expect in order to reassure patients. The typical picture is as follows:

4th day after vaccination—a solid, small, elevated lesion (a papule)

5th to 6th day—a typical blister with a depression in its center (umbilicated vesicle)

10th day—pustule or ulceration surrounded by swollen, red skin (indurated skin area)

1336

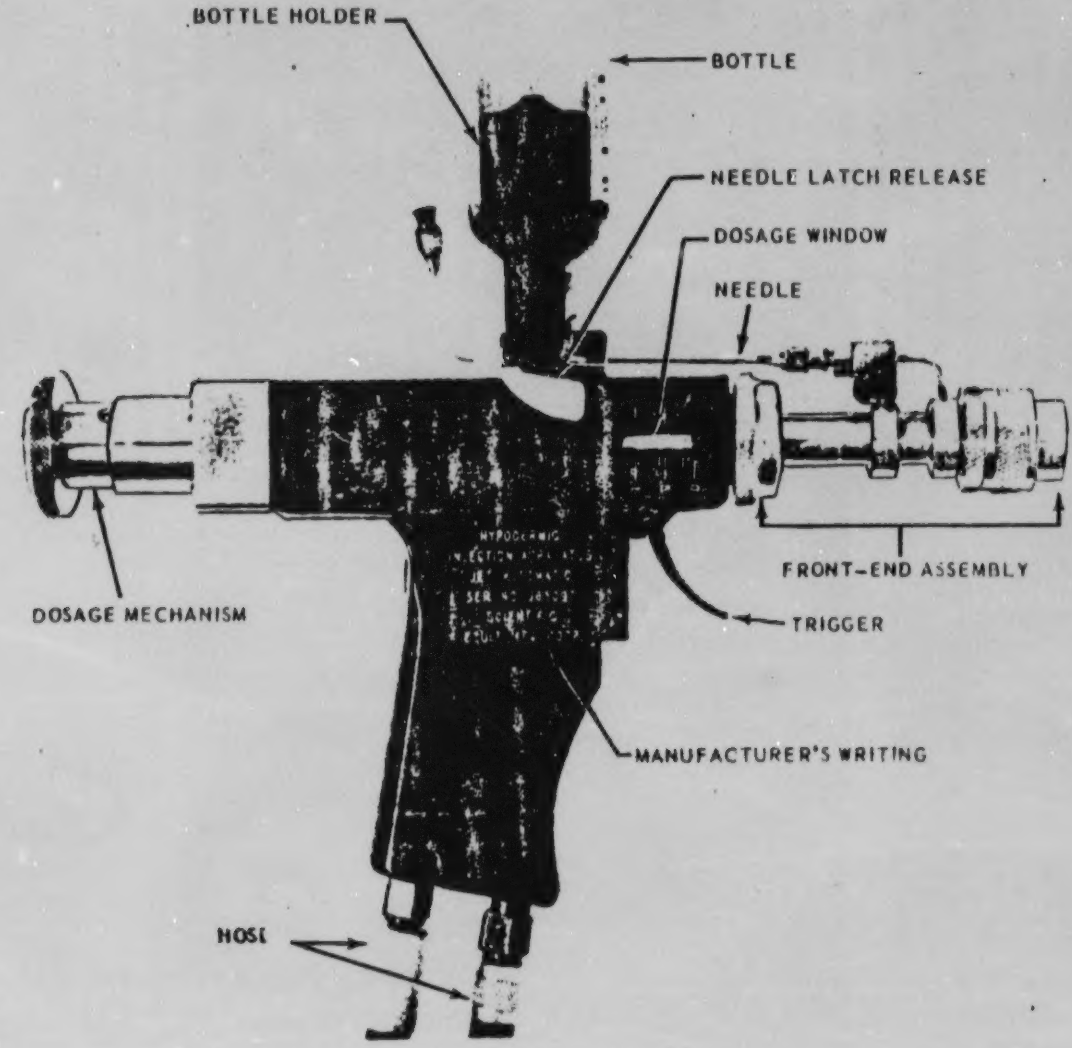
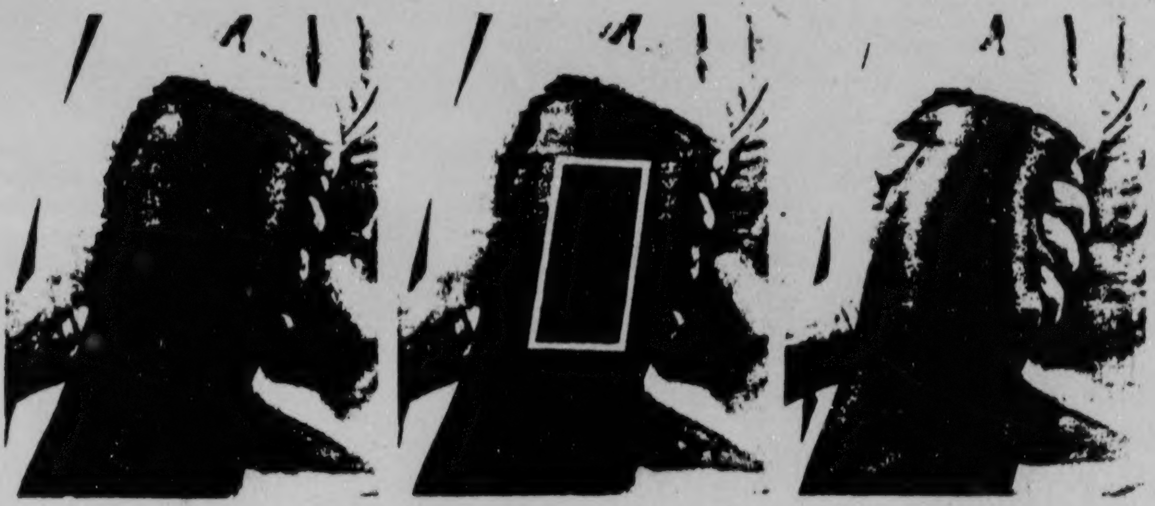

BOTTLE HOLDER
BOTTLE
NEEDLE LATCH RELEASE
DOSAGE WINDOW
NEEDLE
FRONT-END ASSEMBLY
TRIGGER
DOSAGE MECHANISM
MANUFACTURER'S WRITING
HOSE

Figure 8–5. Jet hypodermic injection apparatus, automatic.

1372



1. USE YOUR FREE HAND TO SUPPORT PATIENT'S ARM.
2. SELECT A PLACE ON THE PATIENT'S UPPER ARM AS THE SITE FOR THE INJECTION.
3. USE YOUR FINGERS TO PULL THE FLESH TIGHT.

4. PLACE NOZZLE AGAINST ARM SO THAT INJECTOR AND FLESH FORM A 90° ANGLE.

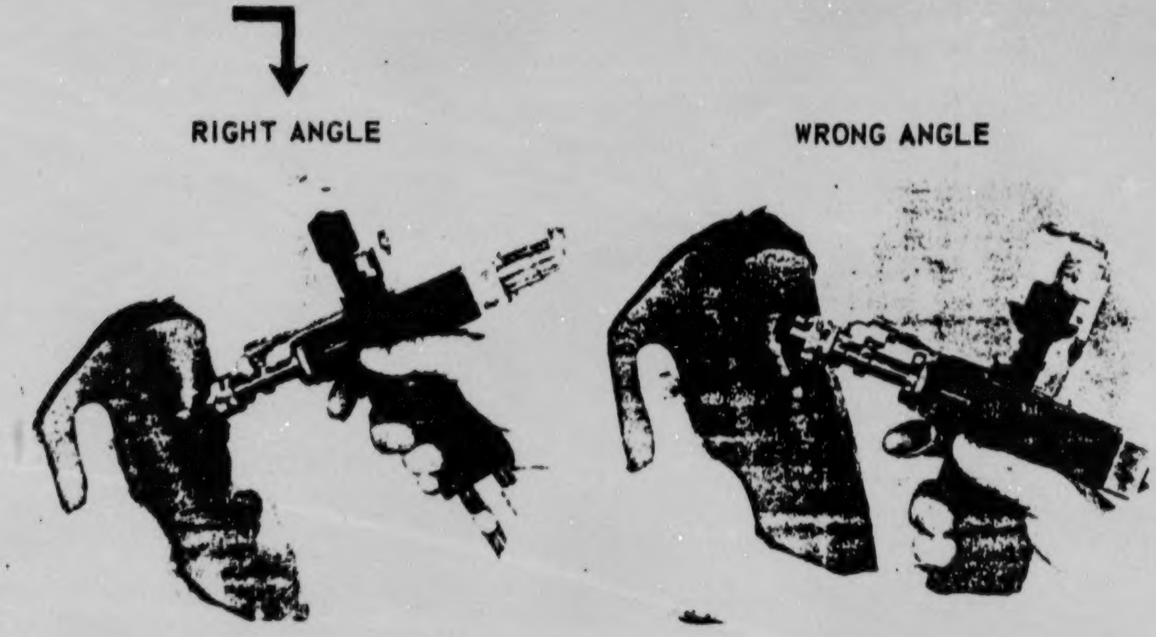
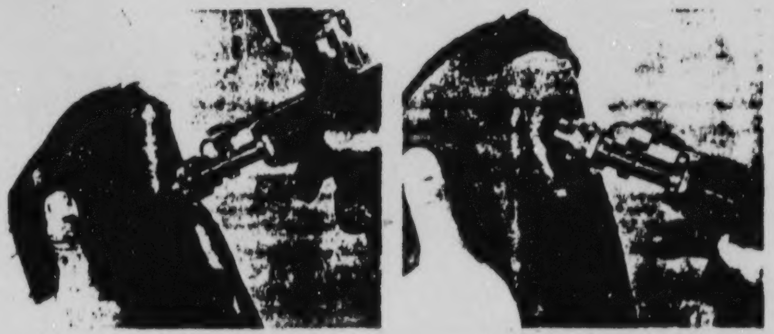


Figure 6-6. Injection technique with jet hypodermic apparatus, automatic.

5. APPLY ENOUGH PRESSURE FOR NOZZLE TO BE PARTLY AND **EVENLY** BURIED IN FLESH.



RIGHT WRONG

6. HOLD PATIENT AS STILL AS POSSIBLE AND HOLD THE INJECTOR **PERFECTLY STILL** AGAINST THE SITE; REST FINGER ON TRIGGER; THEN PULL TRIGGER WHILE COUNTING--"1001, 1002, 1003." KEEP INJECTOR STILL UNTIL FULL COUNT IS COMPLETED.

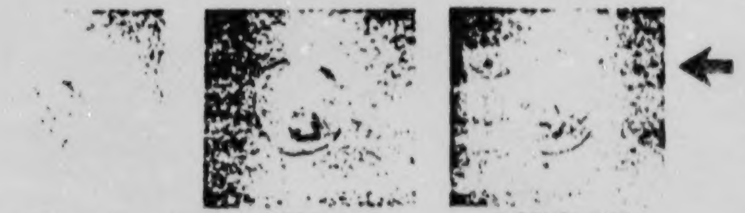
WARNING

INCOMPLETE INJECTIONS OR EXCESSIVE BLEEDING WILL RESULT IF INJECTOR IS NOT HELD AGAINST THE SITE LONG ENOUGH

7. **WIPE** THE INJECTION SITE WITH ANY CLEAN MATERIAL (COTTON, GAUZE, ETC.) TO REMOVE EXCESS VACCINE, OR PATIENT MAY GET VACCINE ON HANDS AND IN EYES

PUT THIS MATERIAL INTO A CONTAINER THAT YOU CAN CLOSE. (YOU CAN DISPOSE OF THIS MATERIAL AT THE END OF THE DAY.)

8. **LOOK** AT THE VACCINATION AND BE SURE IT IS COMPLETE. COMPARE IT WITH THOSE SHOWN BELOW--NOTE NOZZLE PRINT AROUND WHEALS IN THE PICTURES.



IF YOU GET FOUR CONSECUTIVE WHEALS LIKE THIS, YOUR PED-O-JET IS OUT OF ORDER

EXCELLENT ACCEPTABLE INCOMPLETE AND UNACCEPTABLE

Figure 6-6.—Continued.

14th day—scab formation; on subsequent days, there will be gradual separation and dropping off of the scab, leaving a scar.

If an individual has an unusually severe reaction, the specialist should refer him to the medical officer.

6–30. Jet Hypodermic Injection Apparatus, Automatic

The jet hypodermic injection apparatus, automatic (fig. 6–5), commonly referred to as the injection gun, is a standard item designed for immunization procedures. It is commonly used by immunization teams operating under field conditions. When used by a properly trained, skilled operator, the injection gun facilitates mass immunization procedures and reduces the potential hazards of transmitting serum hepatitis by needle and syringe immunization methods. Its use also reduces the requirement for an immunization team to have large numbers of properly sterilized needles and syringes available and eliminates many hours expended in the care and processing of reusable syringes and needles and preparing individual dosage from vaccine vials. The advantages justify the expense of the jet injection equipment and also justify the time and effort that must be expended in training operators in the proper use and maintenance of the jet apparatus. This complex precision device is "automatic" only in the sense that, when properly maintained and assembled, a touch on the trigger will jet-propel a metered quantity of vaccine from the nozzle. When proper technique is used in positioning the nozzle at the injection site, the jet-propelled vaccine is driven through the skin. Interchangeable nozzles, supplied by the manufacturer, are attached by the operator to the gun assembly; one nozzle design permits administration of vaccine intradermally and another nozzle is used for subcutaneous injection. Improper maintenance and assembly will damage the device, cause faulty operation, and result in contamination of the vaccine. Improper injection technique will injure the recipient's skin and will fail to deliver the required dosage of vaccine. Prerequisites for learning the use of the jet injection apparatus include—

a. Having the actual apparatus available while receiving detailed, individualized instruction on maintenance, assembly, operation, and cleaning.

b. Reading all of the instructions and studying the illustrations in the technical manual provided by the manufacturer of the model used.

c. Practicing assembly and operation under supervision before attempting to use the device on a patient.

d. Practicing injection technique recommended by the immunization team director. An accepted technique is illustrated in figure 6–6.

e. Recognizing that any of the following are indications of faulty maintenance, faulty operation, or faulty injection technique:

(1) Off-center or irregular wheals at site of injection.

(2) Lacerations or bleeding at the site of injection.

(3) Incomplete shots as evidenced by large drops of vaccine remaining on the skin surface.

(not included in this course)

Section V. MINOR SURGERY

~~6–31. Assisting With Minor Operative Procedures~~

~~*a. General.* A minor operative procedure usually involves an incision but does not necessitate exposure of viscera or large areas of internal body tissue; it is usually a procedure of short duration that is often performed with administration of a local rather than a general anesthetic. When the patient's needs before, during, and after the operative procedure can be met on an outpatient basis, the minor operative procedure may be performed in an appropriately staffed and equipped dispensary. The medical officer who examines the patient and evaluates his condition makes the decision; if the patient's needs cannot be met, he is referred to a hospital for treatment as an inpatient. Examples of minor operative procedures customarily performed in a dispensary or outpatient surgical clinic or emergency room include primary closure of selected superficial incised or lacerated wounds; removal of superficial foreign bodies or small superficial tumors; and incision and drainage (I and D) of an abscess such as a furuncle or paronychia (abscess underlying a nailbed or nail margin). Surgical techniques involved include wound preparation for debridement, suturing, incision, excision, and drainage procedures.~~

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(not included in this course)

~~b. *Alternate Method.* An alternate method of gloving is the closed cuff method. This method is preferred as the safer method when the specialist must glove himself. The specialist must, however, be wearing a sterile gown. This method eliminates several potential hazards in the glove procedure.~~

~~(1) The danger of contamination from glove cuffs rolling on skin surfaces is eliminated.~~

~~(2) The hands are not powdered and powder is not scattered on the floor or dispersed into the air.~~

~~(3) The gown cuff is anchored more securely by the glove. (The steps in TM 8-220 that require a sterile gown should be followed when this alternate method is used.)~~

6-34. Minor Operative Techniques—Open Wound Care

As a general rule, direct responsibility for open wound care other than the proper application of a first-aid dressing is NOT delegated to the medical specialist. Under supervision and direction of the medical officer, however, the medical specialist may be required to assist the medical officer directly with certain phases of wound care, such as preparation of an open wound for debridement or wound closure. When assisting in this fashion, the medical specialist functions as the sterile (scrubbed) assistant. The techniques discussed apply to treatment of a freshly incurred (within 6 to 8 hours of treatment), superficial, lacerated wound that does not involve nerve, large blood vessel, tendon, or deep muscle damage.

PREPARATION OF AN OPEN WOUND FOR OPERATIVE TREATMENT

Following initial evaluation of the patient's condition and the nature of the wound, the surgeon may direct the medical specialist to do a "surgical wound prep." This type of preparation is done using sterile technique.

Equipment

Presterilized prep set*
Sterile water, 1000 ml. flask
Sterile saline, 1000 ml. flask
Surgical soap
Plastic or rubber sheeting
Waste bucket
Sterile glove pack
Sterile brush pack
Sterile towel pack

Procedure

1. With assistance of circulator, place patient in required position, removing clothing to provide free access to the circumference of the affected area.
2. Place plastic or rubber sheeting under involved area to protect table linen and other parts of the patient from moisture. Form trough with free end of sheeting for drainage into waste bucket.
3. Cut away external portion of temporary dressing, using bandage scissors; leave wound area protected by internal dressing.
4. Focus light on area to be treated.
5. Place prep set on instrument stand adjacent to involved area. Open outer wrapper.
6. Do surgical hand scrub and gloving procedure.
7. Open inner wrapper of prep set.
8. Request circulator to pour sterile water into one basin and surgical soap into cup. (Save second sterile basin for sterile saline, for use later.)
9. With hemostat forceps, remove temporary dressing. Discard forceps and dressing.
10. With gloved hand, place folded gauze pads to cover wound completely and hold pads firmly in place.
11. With gauze fluffs, water, and soap, cleanse skin area for 3 or 4 inches adjacent to wound, using friction and working outward from wound margin. Do not retrace. Discard gauze after initial use, using fresh gauze as required.
12. Clip or shave, as appropriate, any visible hair at edges of wound and in area being cleansed.
13. Repeat skin cleansing, followed by clear water rinse, using gauze fluffs.
14. Following skin cleansing and removal of hair, irrigate wound (if so directed by the surgeon), following these steps:
    a. Discard protective gauze pad which has been on wound surface.
    b. Use asepto syringe and sterile saline, flushing entire open wound area with copious amounts of solution—500 ml. or more of solution may be used. With assistance of circulator, tilt patient, if possible, to direct flow of solution from wound toward rubber or plastic sheeting trough.

CAUTION

When the wound is irrigated, bleeding may occur as clots are dislodged and washed away. Never start irrigation procedure except under direct supervision of the surgeon, so that he may intervene immediately to identify and control the bleeding point by clamping with a hemostat or immediate ligation (tying off with suture). It may be necessary for you to apply direct firm pressure with sterile gauze to control bleeding as an interim measure until the surgeon takes over.

---

* Contents of prep set may vary. Usual items required are asepto syringe, 1; sponge basins, 2; solution cup, 1; thumb forceps; hemostat forceps; gauze fluffs, 12; gauze pads, 4- by 8-inch, 6; razor and blade; scissors.

c. Remove visible foreign bodies (such as glass particles, gravel, bits of clothing, or detached bits of skin) that are not embedded in the tissue, using thumb forceps. Place removed particles on a gauze sponge for the surgeon's inspection. Do NOT probe into wound.

15. Following irrigation, place dry, sterile gauze pads lightly on wound surface. Dry adjacent skin area with sterile gauze.

16. Support affected body part while the circulator removes the wet rubber protector and places dry linen, as required, under the patient. Be very deliberate and gentle in all handling of the patient.

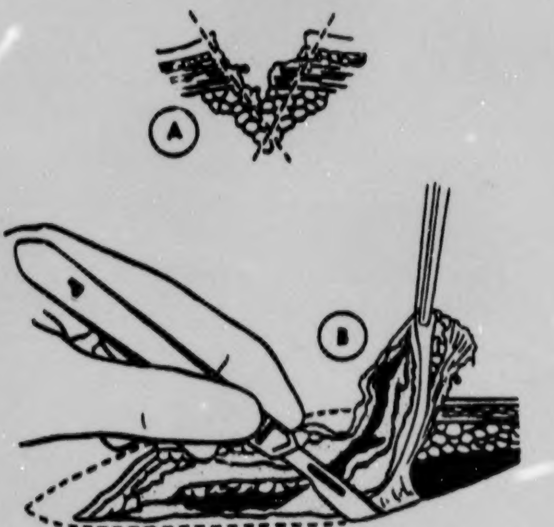
Place the patient in the desired position for the surgeon to continue operative treatment.

18. While the circulator places the sterile minor surgery tray in position for the surgeon, remove the prep tray from the site.

19. Remove gloves. If further assistance in a sterile capacity is required, complete a 3-minute hand scrub and put on fresh, sterile gloves.

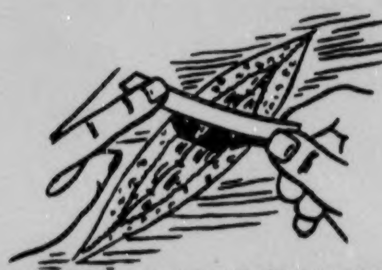
ASSISTING WITH SURGICAL DEBRIDEMENT

1. Surgical debridement involves the excision (cutting away) of all contaminated and dead tissue. The wound is enlarged, leaving clean, live tissue with freshly trimmed edges that can be apposed (brought together) for closure. In figure 6-9Ⓐ, a cross section diagram of a lacerated wound shows the irregular, damaged tissue margins that are trimmed in debridement, as indicated by the dotted lines in figure 6-9Ⓑ. The surgeon distinguishes live tissue from dead tissue by its color, consistency, contractibility, and capillary bleeding. Live tissue appears moist, pink, and firm to touch; the muscle will contract when stimulated by touch, and there will be free bleeding from cut capillary vessels. Dead tissue is described as being dark and having a mushy consistency.

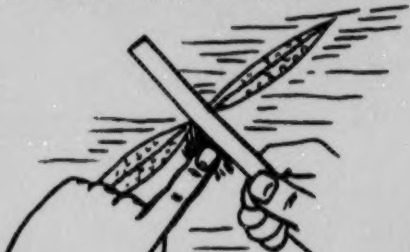


A CROSS-SECTION OF LACERATED WOUND.
B EXCISION OF DEAD AND CONTAMINATED TISSUE IN SURGICAL DEBRIDEMENT.

Figure 6-9. Debridement operative technique.



APPLY ONE-HALF OF ADHESIVE STRIP TO ONE SIDE OF SKIN AT MIDPORTION OF WOUND. PRESS FIRMLY INTO PLACE. APPLY STRIP AT RIGHT ANGLES TO WOUND.



HOLD OTHER END OF STRIP FOR TRACTION. APPOSE SKIN EDGES EXACTLY, USING FINGERS OR FORCEPS, AND PRESS FREE HALF OF STRIP INTO PLACE.

Figure 6-10. Sutureless skin closure, sterile strip technique.

the company aid post remain at that location pending appropriate disposition.

(*c*) Coordinate and direct the activities of supporting aid-evacuation teams operating in the company area.

(*d*) Keep the company commander informed of the medical status in the company area.

(*e*) Report matters detrimental to the health of the command to the platoon or company commander and the battalion surgeon.

(*f*) Supervise hygiene; sanitation; and the selection, treatment, and handling of water for consumption. The senior medical aidman may serve as a member of the unit field sanitation team.

6–36. Preventive Medicine

Adequate preventive medicine practices are an important part of the unit-level medical mission at aid posts and aid stations. The medical specialist will find much of the information he needs in AR 40-5 and FM 21-10.

a. Among the preventive medicine inspections he may be required to conduct on the site are—

(1) Routine inspection of food.

(2) Messhall inspection.

(3) Barracks inspection.

(4) Inspection of water and sewage disposal systems.

b. In addition to inspection duties, he may also be required to—

(1) Keep records of personnel who must have periodic physical examinations such as food handlers and persons who handle volatile fuel material.

(2) Establish schedules and immunize personnel (AR 40-562), coordinating the schedule with the personnel officer.

(3) Instruct personnel on—

(*a*) Venereal diseases.

(*b*) Respiratory disease control.

(*c*) Intestinal diseases.

(*d*) Personal hygiene.

c. He may be required to prepare information for the monthly preventive medicine reports, which will be submitted through the unit commander either to the support unit or to the supporting division surgeon's office.

6–37. U.S. Field Medical Card (DD Form 1380)

a. *General*. The U.S. Field Medical Card (FMC) is the individual medical record used by aid stations and clearing stations and by nonfixed dispensaries that operate while overseas, while on maneuvers, or while attached to commands moving between stations (AR 40-400). The FMC is designed for use in forward combat areas where keeping detailed clinical records is impractical. Its main purpose is to furnish medical officers who see the casualty during evacuation with essential information about the casualty's injury or disease and the treatment given him.

b. *Description*. The field medical card is made so that it can be attached to a casualty. The cards are issued as a pad, each containing complete sets. A set consists of an original card, a sheet of carbon paper, a carbon protective sheet, and a duplicate. The front side of the card has spaces for the casualty's name, serial number, diagnosis, treatment, and other essential information. The reserve side of the card has space for additional entries when needed. In preparing the FMC, first remove and discard the carbon protective sheet. (Retain the carbon if the reverse side is being completed.) Unless otherwise directed, fasten the original of the FMC initiated on admission (by an aidman or personnel of the medical treatment facility) to the patient's clothing and leave it there while the patient is being transferred between Army medical treatment facilities which use the FMC as the individual medical record. Retain the duplicate in the pad for use as the theater surgeon prescribes.

c. *Preparation*. The U.S. Field Medical Card will be prepared by aid stations, collecting stations, clearing stations, and nonfixed dispensaries that operate while overseas, while on maneuvers, or while attached to commands moving between stations.

(1) *When prepared*. For each direct admission and for each carded for record only (CRO).

(2) *By whom prepared*. The U.S. Field Medical Card will be completed by, or under the supervision of, a medical officer of the medical treatment facility involved. Company aidmen first attending casualties in the field may initiate the U.S. Field Medical Card by recording such entries as are sufficient to identify the individual and by briefly describing medical aid given such as plasma, morphine, or splinting. The medical aidman places his initials in the extreme right portion of the space provided for signature. The U.S.

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Field Medical Card will be reviewed, completed, and signed by a medical officer or his designee.

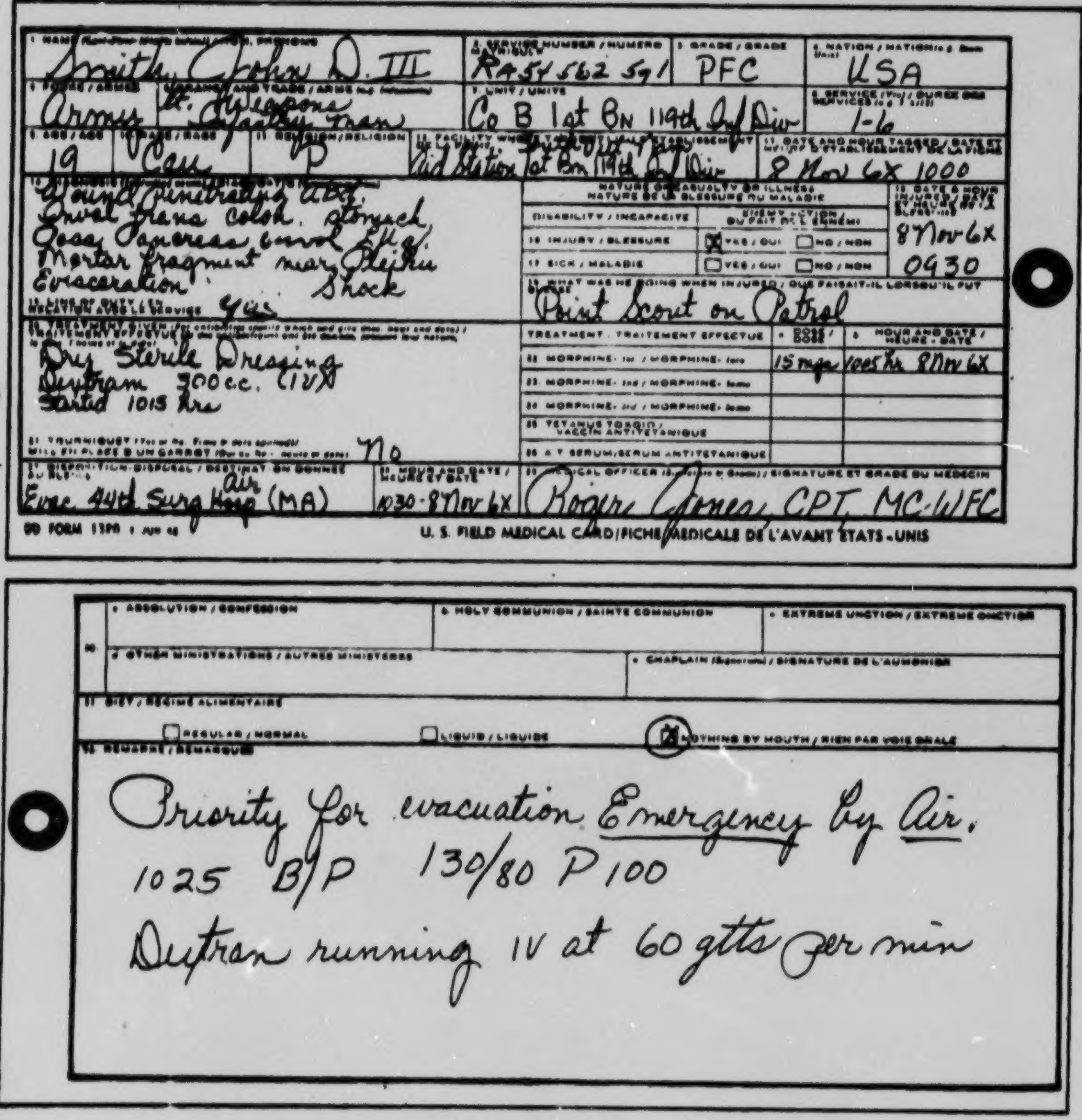
d. Source of Data.

(1) *Identification of a patient.* Information may be secured from the patient or from such things as identification tags and personnel records.

(2) *Medical information.* Medical information such as diagnosis, operations, and treatment will be entered directly on the U.S. Field Medical Card by medical officers and others attending the patient, ordinarily at the time of attendance.

e. Entries. Aid stations under conditions of extreme stress may only partially complete the U.S. Field Medical Card for patients being transferred elsewhere. Otherwise, all entries will be completed as far as possible. Figure 6-13 is a sample completed Field Medical Card.

f. Supplemental Field Medical Card. Whenever additional space is required, another FMC, labeled in the upper right-hand corner "FMC No. 2," and containing appropriate identifying information, will be attached to the original. The second card used is the Supplemental Record. More supple-



1. NAME … PRENOMS: Smith, John D. III
2. SERVICE NUMBER / NUMERO MATRICULE: RA54 562 591
3. GRADE / GRADE: PFC
4. NATION / NATION: USA
5. FORCE / ARMES: Army
6. … AND TRADE / ARME …: Lt. Weapons Infantry man
7. UNIT / UNITE: Co B 1st Bn 119th Inf Div
8. SERVICE … : 1-6
9. AGE / AGE: 19
10. RACE / RACE: Cau
11. RELIGION / RELIGION: P
12. FACILITY WHERE TAGGED … / ETABLISSEMENT …: Aid Station 1st Bn 119th Inf Div
13. DATE AND HOUR TAGGED / DATE ET HEURE …: 8 Nov 6X 1000
14. DIAGNOSIS …: Wound Penetrating Abd. Invol Ileum colon. stomach Gross Pancreas Invol … Mortar fragment near Pleiku Evisceration Shock
15. LINE OF DUTY (?) / RELATION AVEC LE SERVICE: Yes

NATURE OF CASUALTY OR ILLNESS / NATURE DE LA BLESSURE OU MALADIE

DISABILITY / INCAPACITE	ENEMY ACTION / DU FAIT DE L'ENNEMI	
16 INJURY / BLESSURE	☒ YES / OUI	☐ NO / NON
17 SICK / MALADIE	☐ YES / OUI	☐ NO / NON

18. DATE & HOUR INJURED …: 8 Nov 6X 0930
19. WHAT WAS HE DOING WHEN INJURED / QUE FAISAIT-IL LORSQU'IL FUT BLESSE: Point Scout on Patrol
20. TREATMENT GIVEN …: Dry Sterile Dressing Dextran 500cc. (IV) Started 1015 hrs

TREATMENT / TRAITEMENT EFFECTUE	a DOSE / DOSE	b HOUR AND DATE / HEURE - DATE
22 MORPHINE- 1st / MORPHINE- 1ere	15 mgm	1005 hr 8 Nov 6X
23 MORPHINE- 2nd / MORPHINE- 2eme		
24 MORPHINE- 3rd / MORPHINE- 3eme		
25 TETANUS TOXOID / VACCIN ANTITETANIQUE		
26 A T SERUM/SERUM ANTITETANIQUE		

21. TOURNIQUET … / MISE EN PLACE D UN GARROT …: No
27. DISPOSITION / DISPOSAL / DESTINATION DONNEE AU BLESSE: Evac Air 44th Surg Hosp (MA)
28. HOUR AND DATE / HEURE ET DATE: 1030-8 Nov 6X
29. MEDICAL OFFICER … / SIGNATURE ET GRADE DU MEDECIN: Roger Jones, CPT, MC-WFC

DD FORM 1380 1 JUN 6?

U. S. FIELD MEDICAL CARD/FICHE MEDICALE DE L'AVANT ETATS-UNIS

30 a ABSOLUTION / CONFESSION

b HOLY COMMUNION / SAINTE COMMUNION

c EXTREME UNCTION / EXTREME ONCTION

d OTHER MINISTRATIONS / AUTRES MINISTERES

e CHAPLAIN … / SIGNATURE DE L'AUMONIER

31 DIET / REGIME ALIMENTAIRE

☐ REGULAR / NORMAL ☐ LIQUID / LIQUIDE ☒ NOTHING BY MOUTH / RIEN PAR VOIE ORALE

32 REMARKS / REMARQUES

Priority for evacuation Emergency by Air.
1025 B/P 130/80 P 100
Dextran running IV at 60 gtts per min

Figure 6-13. Sample of completed U.S. Field Medical Card.

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mental cards may be added as needed, but they will be numbered in sequence.

g. Disposition of U.S. Field Medical Cards. Disposition of U.S. Field Medical Cards is shown in table 6–1.

Table 6–1. Disposition of U. S. Field Medical Card

Disposition	Original	Duplicate
COMBAT SITUATION Admission & Disposition.	OTSG	Health Record
CRO	OTSG	Health Record
Outpatient Treatment	Health Record	Destroy after 3 months
TRANSFER	To receiving facility	Health Record
NONCOMBAT SITUATION Admission or CRO with/disposition duty or health.	OTSG	Health Record
Transfer	To receiving facility	Destroy after 3 months

(1) *Completed cases.* If the patient is returned to duty or carded for record only, the original copy of the FMC is kept by the medical treatment facility making disposition of the case. Later the facility sends this copy to The Surgeon General. The card should never go with the patient to his organization. When a patient is killed in action or dies in, or on the way to, a medical treatment facility, the original is left attached to the body until it reaches the place of burial. Then it is removed for transmittal to The Surgeon General.

(2) *Transfered cases.* When a patient is transferred from one medical treatment facility to another farther to the rear, the card goes with the patient. It remains attached to him until he reaches a hospital, dies and is buried, or until he is returned to duty.

(3) *Carbon copies.* In oversea commands, carbon copies (duplicates) of FMC are used as the theater surgeon prescribes. In the United States, the senior medical officer prescribes the use of carbon copies of the cards.

★CHAPTER 8

EMERGENCY MEDICAL CARE

Section I. INTRODUCTION TO VITAL PROCESSES

8–1. Systemic Response to Injury

a. No injury is dynamic. It continues to produce harmful effects on the injured person until either the injury or the person is defeated. As these effects are general as well as local, the response of the human organisms to injury is also both general and local. For this reason, injuries and their effects must be evaluated from the standpoint that the whole person is injured, and not from the view that an otherwise well-off individual is afflicted with a local defect or that only a part of the total system is affected.

b. Since the effects of injury and the body's efforts to defeat them are constantly changing, treatment personnel cannot rely on one observation or one symptom in evaluating the condition of a patient, especially one seriously injured. Repeated observations must be made and indications of the patient's circulatory condition, temperature, respiration, color and vitality must all be considered to obtain as clear a picture as possible of the patient's condition and the treatment required at the moment the particular observation is made.

c. Emergency treatment must be fast. Table 8–1 lists where treatment for particular emergencies may be found in this manual.

Table 8–1. Locating Emergency Treatment Measures

Emergency	Go to paragraph
Breathing failure, symptoms	8–4*b*
Artificial respiration	8–5
Expired air technique	8–5*c*
Modified Silvester method	8–5*c*
Pharyngeal airway	8–5*c*
Mask-to-mouth	8–5*c*
Emergency surgical airway	8–6*c*
Burns	8–30—8–35
Extensive	8–34*c*
Minimal	8–34*a*
Moderate	8–34*b*
Regional	8–34*d*
Cardiac arrest	8–9, 8–10
Dislocation	8–28
Fracture	8–21—8–27
Emergency treatment	8–26
Signs and symptoms	8–25
Hemorrhage (*See also* Wounds)	8–11—8–14
Internal	8–14*b*
External	8–14*a*
Pressure points	8–14*a*(3)
Use of tourniquet	8–14*a*(4), (5)
Poisons (*See also* table 8–4)	8–49—8–58
Shock	8–15—8–18
General measures	8–16
Treatment	8–17
Replacement fluids for IV	8–18

Emergency	Go to paragraph
Snakebite	8–58
Sprains	8–29
Wounds (*See also* Hemorrhage)	8–36—8–48
Abdominal	8–48
Emergency medical treatment	8–48
Asepsis	8–19*b*
Chest	8–46
Face and Neck	8–45
Head	8–36—8–41
Pneumothorax	8–47
Emergency medical treatment	8–47
Spinal	8–42—8–44

d. General rules for any medical emergency are listed below:

(1) Follow these rules, as required, in this sequence:

(*a*) Clear the airway and restore breathing.

(*b*) Stop the bleeding.

(*c*) Control shock.

(*d*) Dress and bandage if needed.

(*e*) Prepare for movement (splint fractures; treat for pain).

(2) Make the patient comfortable.

(3) Report any emergency treatment.

8–2. Basic Anatomy and Physiology of the Body

The various systems of the body are covered in chapter 2 and the body's reactions to disease and injury in chapter 3.

Section II. ARTIFICIAL RESPIRATION

8–3. Basic Mechanism and Physiology of Respirations

a. Breathing. Breathing is an automatic mechanism under the control of a respiratory center in the brain. Various forces affect the rate and depth of breathing (chap 2), but the respiratory center is under the influence of the concentration of accumulated carbon dioxide in the blood supplying the center. Breathing is accomplished principally by the action of the diaphragm. When the diaphragm contracts, its domed upper surface flattens out and, as a result, the size of the chest cavity increases. This causes a partial vacuum in the chest cavity, and air is drawn into the lungs. The contraction of the diaphragm is accompanied by the contraction of the intercostal muscles between the ribs, which causes the chest cavity to enlarge from side to side and from front to back and thus expand the lungs. Expiration of air from the lungs is caused by the relaxation of the diaphragm and other muscles of respiration.

b. Gas Exchange. The inspired oxygen enters the bloodstream by way of the alveoli, and carbon dioxide waste leaves the body by the same route. Although the wall separating the air in the alveolus from the blood in the underlying capillaries consists of some four structures, this barrier is microscopically thin and permeable. This anatomical feature, together with an optimum pressure differential between each side of the wall, permits the exchange of oxygen and carbon dioxide.

8–4. Oxygen Deprivation: the Primary Medical Emergency

a. General. The most critical medical emergency is anoxia—literally, lack of oxygen, and physiologically, an amount of oxygen insufficient to carry on vital processes. The human brain can withstand anoxia for *only a few minutes* before incurring permanent damage. The heart and other tissues having a high oxygen requirement can withstand anoxia a few minutes longer without damage. The effects of hypoxia—oxygen available in amounts less than the tissue requirement—will be in proportion to the duration and amount of deprivation. Oxygen deprivation occurs under one or more of three general conditions—

(1) When the atmosphere, or inspired air, contains inadequate oxygen or when impurities inhibit the body tissues from carrying or using

the available oxygen. Examples are high altitude, as in mountain climbing or traveling in an unpressurized airplane, and poisonous chemical agents that are inhaled, such as carbon monoxide. Carbon monoxide is a colorless, odorless gas produced by incomplete burning of hydrocarbons such as gasoline, kerosene, oil, coal, wood, or cotton. This gas is a hazard at all times and is likely to be an even greater hazard following occurrence of disaster. In addition to the symptoms of oxygen deprivation in *b* below, a cherry-red coloring of the lips and tongue may be observed in persons poisoned by carbon monoxide.

(2) When the respiratory system fails or is so inefficient that insufficient oxygen is inspired. Head wounds (Para 8–36 through 8–48) may include damage to the respiratory center of the brain so that respiratory movement is disrupted or halted; the lungs may collapse as a result of chest wounds. Morphine, codeine, and barbiturates may depress the respiratory center so that respiration slows or ceases, or electric shock may paralyze it. Spasm of the chest muscles may result from blast or other compression.

(3) When the cardiovascular system fails to distribute the oxygen because of insufficient circulating volume, insufficient number of red blood cells, or heart failure. Regional hypoxia occurs when vessels serving the region are occluded by clot or tourniquet, or are compressed for an extended period by weight of the body or tight bandages. Reduced blood volume results from hemorrhage, dehydration, shifts in electrolyte balance, or shifts in volume. Depression of heart action by such forces as oxygen starvation, electrolyte imbalance, electric shock, blows or pressure against the chest, brain injury, drug depression, and emotional upset reduces the overall circulating volume and the number of blood cells passing any given point in the circulatory system and contributes to general oxygen deprivation. If the heart fails, the circulation stops, and tissue anoxia soon is absolute.

b. Symptoms of Oxygen Deprivation.

(1) *Hypoxia.* Symptoms of hypoxia may include any or all of the following: gasping for breath; marked lack of rhythm in breathing; gurgling, croaking, or rattling sounds in the respiratory apparatus; or a bluish tinge (cyanosis) of the skin, lips, tongue, and fingernails.

(2) *Anoxia.* The patient is at the point of death. There may be either a marked struggle to breathe or no respiratory movement. The cyanosis gives way to a deathly gray, sometimes mottled or splotchy. Depending on the nature of the underlying cause, the patient may be active or comatose.

8–5. Methods of Artificial Respiration

a. Need for Artificial Respiration. If the patient is not breathing, he requires artificial respiration immediately. If he has no heartbeat, he requires immediate heart massage. If there is both respiratory and cardiac failure, resuscitative measures must be applied to correct both conditions. One person should perform artificial respiration; the other, cardiac massage. If one person is working alone, he must perform both measures alternately.

b. Preliminary Considerations. Speed is important. Seconds count. The sooner artificial respiration is begun, the more likely it is to succeed. If a brief glance at the patient fails to detect respiratory movements, you may test for signs of breathing by placing one ear over the patient's nose or open mouth to detect expired air. This test must not take more than a few seconds, and no more time should be spent under the guise of "making sure" the patient is not breathing. Beginning artificial respiration when a patient is breathing will do no harm. *When in doubt, start artificial respiration.*

c. Choice of Method. Some method based on the expired air technique should be used when possible. If the atmosphere contains casualty-producing chemical or biological agents, use the mask-to-mouth method or the modified Silvester method. This would also be used if manipulation of the patient's head or face would cause hemorrhage of or into the airway.

EXPIRED AIR TECHNIQUE OF ARTIFICIAL RESPIRATION

Artificial respiration may be given by inflating the patient's lungs with your breath. The inflation is accomplished via mouth-to-mouth or mouth-to-nose. Mouth-to-mouth is the preferred method; however, when the patient's jaws are tightly closed by spasm or when he has a jaw or mouth wound, the mouth-to-nose method may be used. The procedure in the expired air technique, using either the mouth-to-mouth or mouth-to-nose approach is as follows:

1. Position patient on his back.
2. Clear upper airway. Turn patient's head to one side and quickly clear his mouth of any vomitus, mucus, or debris by running your fingers behind his lower teeth and over the

back of his tongue. Remove any full or partial dental plate. This cleaning process should not take more than a second or two.

3. Position head. Turn the patient's head to the face-up position. If a rolled blanket or some other similar object is immdeiately available, place it under his shoulders so that his neck will be extended and his chin pointing upward. In any event, tilt his head back so that the neck is stretched and the head is in a chin-up position (fig 8-1).
4. Adjust the patient's lower jaw to a jutting-out position by either method shown in figure 8-2, but preferably the thumb-jaw lift. This positioning moves the base of the tongue away from the back of the throat, thus clearing or enlarging the air passage to the lungs. Do not attempt to hold or depress the tongue.
5. Seal the airway opening (nose or mouth) that is not to be used, continuing to hold the patient's jaw forward. The seal must be secure to prevent leakage of air during inflation. If the patient is an infant or small child, cover both his nose and mouth with your mouth, sealing your lips against the skin of his face.

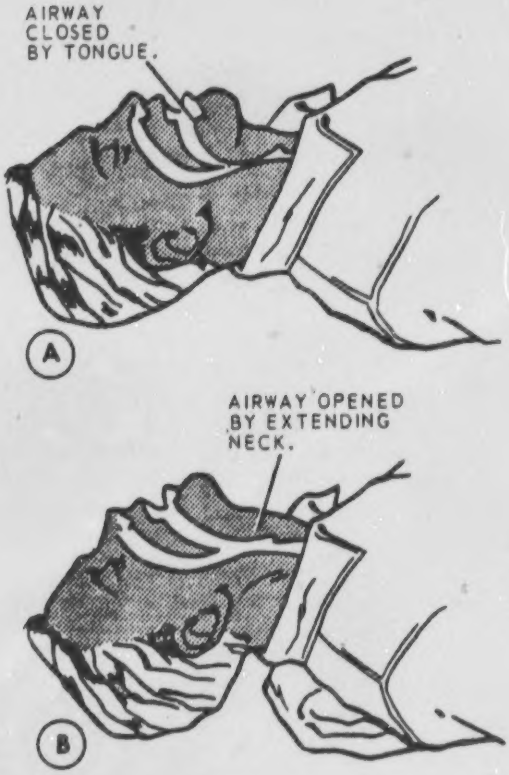
AIRWAY CLOSED BY TONGUE.
A
AIRWAY OPENED BY EXTENDING NECK.
B

Figure 8-1. Chin-up position.

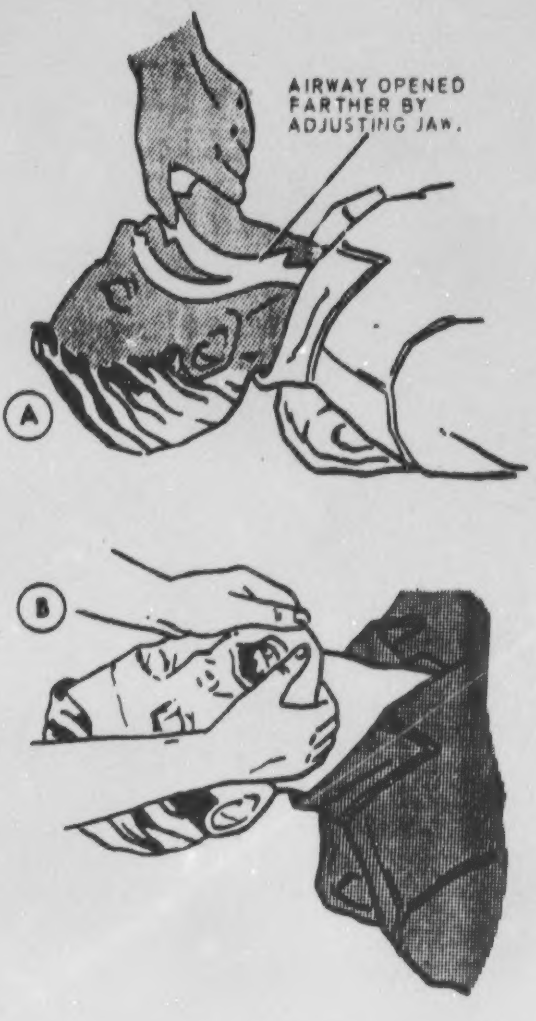
AIRWAY OPENED FARTHER BY ADJUSTING JAW.
A
B

Figure 8-2. Two methods for adjusting lower jaw to jutting-out position. Ⓐ Thumb jaw-lift; Ⓑ Two-hand jaw lift.

The nose. Seal the nose by pinching it shut with your free hand (fig. 8-3Ⓐ) or by, pressing your cheek firmly against it (fig. 8-3Ⓑ).

The mouth. Seal the mouth by placing two fingers lengthwise firmly over the patient's lips.

6. Take a deep breath, open your mouth wide.
7. With your eyes focused on the patient's chest, blow forcefully into his airway (mouth or nose) unless he is an infant or small child (see Note below). If the patient's chest rises, it shows that the air is reaching his lungs, so continue the procedure (8 and 9 below). If the chest does not rise, take corrective action. First, hold the jaw up more forcefully and blow harder, making sure that air is not leak-

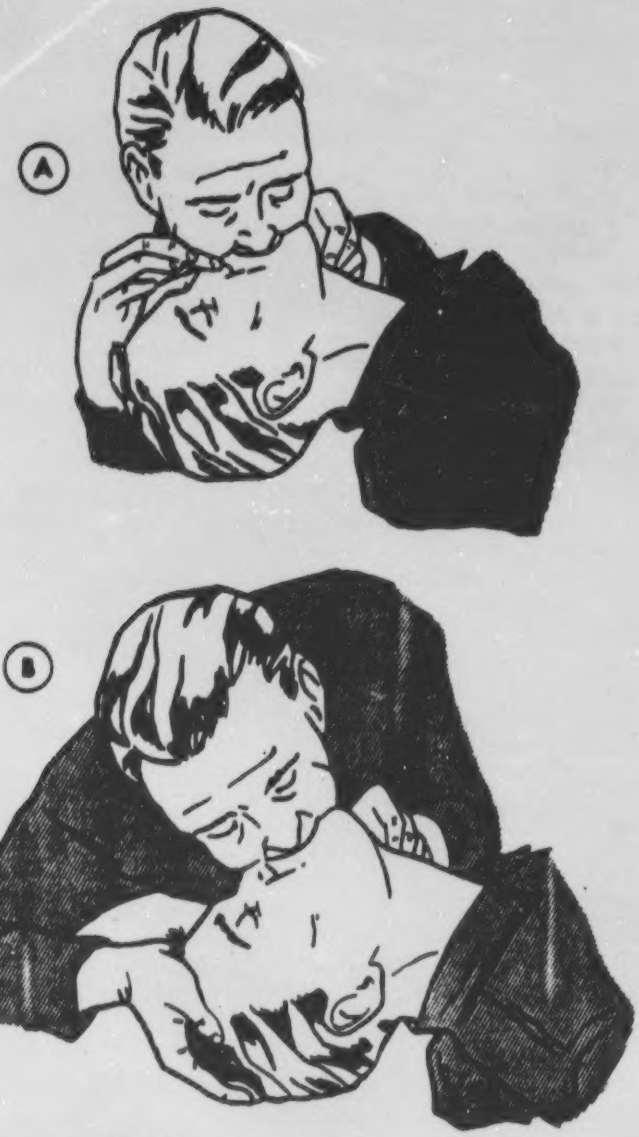

Figure 8–3. Expired Air Technique of artificial respiration; Ⓐ Nose sealed thumb and finger; Ⓑ Nose sealed with cheek.

ing from the mouth or nose. If the chest still does not rise, recheck the mouth for foreign matter and, if necessary, turn the patient on his side and strike him between the shoulders with considerable force repeatedly as necessary to dislodge obstruction in the air passage. Then inflate his lungs.

8. Remove your mouth from the patient's airway and listen for return of air from his lungs. If the patient's exhalation is noisy, elevate his jaw further.
9. After each exhalation of air from the patient's lungs, blow another deep breath into his airway. Make the first 5 to 10 breaths deep (except for infants and small children) and give them at a rapid rate in order to provide fast reoxygenation. Thereafter, give the breaths at a rate of 12 to 20 times per minute until the patient is able to breathe with less assistance or until he is declared dead by the most competent medical authority available. A smooth rhythm is desired but split-second timing is not essential. As the patient attempts to breathe, adjust the timing of your efforts to assist him.

NOTE

For infants or small children, blow small puffs of air from your cheeks, rather than deep breaths from your lungs.

- If your breathing at the start has been very deep and rapid, you may become faint, tingle, or even lose consciousness if you persist. But if, after administering the first 5 to 10 deep, rapid breaths, you adjust your breathing to a rate of 12 to 20 times a minute with only moderate increase in normal volume, you probably will be able to continue to give rescue breathing for a long period without these temporary ill effects. If you become distressed from giving shallow breaths to an infant or small child, interrupt your rhythm occasionally to take a deep breath.
- After a period of resuscitation, the patient's abdomen may bulge. This indicates that some of the air is going into his stomach. Since inflation of the stomach makes it more difficult to inflate the lungs, apply gentle pressure to the abdomen with your hand between inflations.

10. Treat to prevent or lessen shock as soon as the patient is breathing satisfactorily for himself.

USE OF THE PHARYNGEAL AIRWAY

1. The pharyngeal airway is a tube-like device with a mouthpiece for the rescuer, a breathing tube for the patient, and a flange to seal the patient's lips. The use of this airway makes it possible to administer mouth-to-mouth (mouth-to-airway) resuscitation without direct contact between the mouths of the respirating person and the patient. The airway also hold the tongue forward, eliminating the need to place the jaw in a jutting-out position. It does not prevent obstruction, however, unless the patient's head and neck are extended as in step 3 of expired air technique. When this airway is used, the patient's nostrils must be pinched to prevent leakage of air during inflation of his lungs.
2. The pharyngeal airway is inserted after the patient's mouth has first been cleared of any foreign matter. The tongue is held forward; then the airway is inserted into the mouth so that it rests behind the tongue. Insertion is sometimes difficult and should be attempted only by experienced personnel. Attempts by inexperienced personnel not only delay the start of artificial respiration, but also may result in injury to the patient's pharynx. The risk to the patient is unnecessary, especially when all that is being accomplished is the avoidance of what might be distasteful contact with the mouth of a patient near death. If a person experienced in airway insertion is immediately available, that person may insert the airway and a novice may then use it to give artificial respiration. The pharyngeal airway is not to be used if the patient cannot tolerate it without gagging, coughing, or vomiting.

MODIFIED SILVESTER METHOD

1. Position patient on his back.
2. Clear upper airway (as in step 2 of expired air technique). If the patient is wearing a protective mask (fig. 8–4), quickly lift the mask, clear the upper airway and the mask with your fingers, and replace the mask. Maintain a clear air passage by repeating this procedure later, if necessary. If the patient is not masked and the atmosphere is toxic, put his mask on him.
3. Position head (as in step 3 of expired air technique).
4. Position yourself. Stand at the patient's head and face his feet. Kneel at his head on one knee; place your opposite foot to the other side of his head and against his shoulder to steady it (fig. 8–4). If you become uncomfortable after a period of time, quickly switch to the other knee.
5. Grasp the patient's hands; place them over his lower ribs (fig. 8–4Ⓐ).
6. Rock forward and exert steady, uniform pressure almost directly downward (fig. 8–4Ⓑ) until you meet firm resistance. This pressure forces air out of the lungs.
7. Move his arms slowly outward from his body; then, keeping his arms straight, lift them vertically, past his head (fig. 8–4Ⓒ); now stretch them backward as far as possible (fig. 8–4Ⓓ). This process of lifting and stretching the arms increases the size of the chest and draws air into the lungs.
8. Replace his hands on his chest and repeat the cycle: (1) press, (2) lift, (3) stretch, (4) replace. Give 10 to 12 cycles per minute at a steady, uniform rate. Give longer counts of equal length to the first three steps, making the fourth or "replace" period as short as possible.
9. Continue artificial respiration until the patient can breathe without assistance or until he is declared dead by the most competent medical authority available. As the patient attempts to breathe, adjust the timing of your efforts so as to assist him.

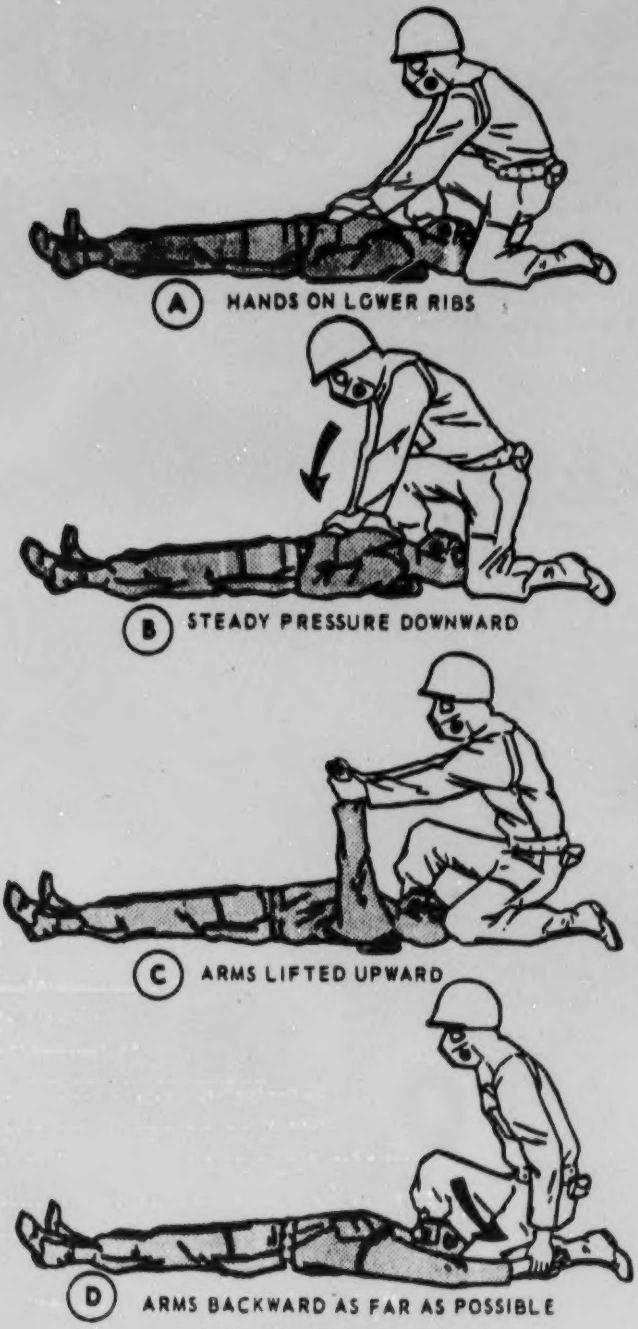
A HANDS ON LOWER RIBS
B STEADY PRESSURE DOWNWARD
C ARMS LIFTED UPWARD
D ARMS BACKWARD AS FAR AS POSSIBLE

Figure 8–4. Modified Silvester method of artificial respiration.

10. If a second person is available, have him relieve you with practically no break in the rhythm. Continuing to administer artificial respiration, move to one side while the replacement takes his position from the other side. During the "stretch" step, the replacement grasps the patient's wrists and continues artificial respiration in the same rhythm, shifting his grip to the patient's hands during the "replace" step.
11. Treat to prevent or lessen shock.

MASK-TO-MOUTH METHOD

The mask-to-mouth method or the modified Silvester method of artificial respiration is used in a contaminated atmosphere. By using the M17A1 Field Protective Mask (fig. 8-5Ⓐ) and the M1 Resuscitation Tube (fig. 8-5Ⓒ), uncontaminated air can be put into the patient's lungs.

PREPARATION OF YOUR MASK

1. Turn the valve handle (fig. 8-5Ⓑ) to the left, thus positoning the breathing tube bitepiece (inside the mask) between your teeth to hold it. The bitepiece will spring back to the neutral position if you release your bite.
2. Using your left hand, raise the voicemitter cover (fig. 8-5Ⓐ); then with your right hand insert the outlet valve of the resuscitation tube (fig. 8-5Ⓒ) into the air outlet well which is under the voicemitter cover. To obtain a tight, leakproof seal, first insert the unflanged edge of the air outlet valve (fig.

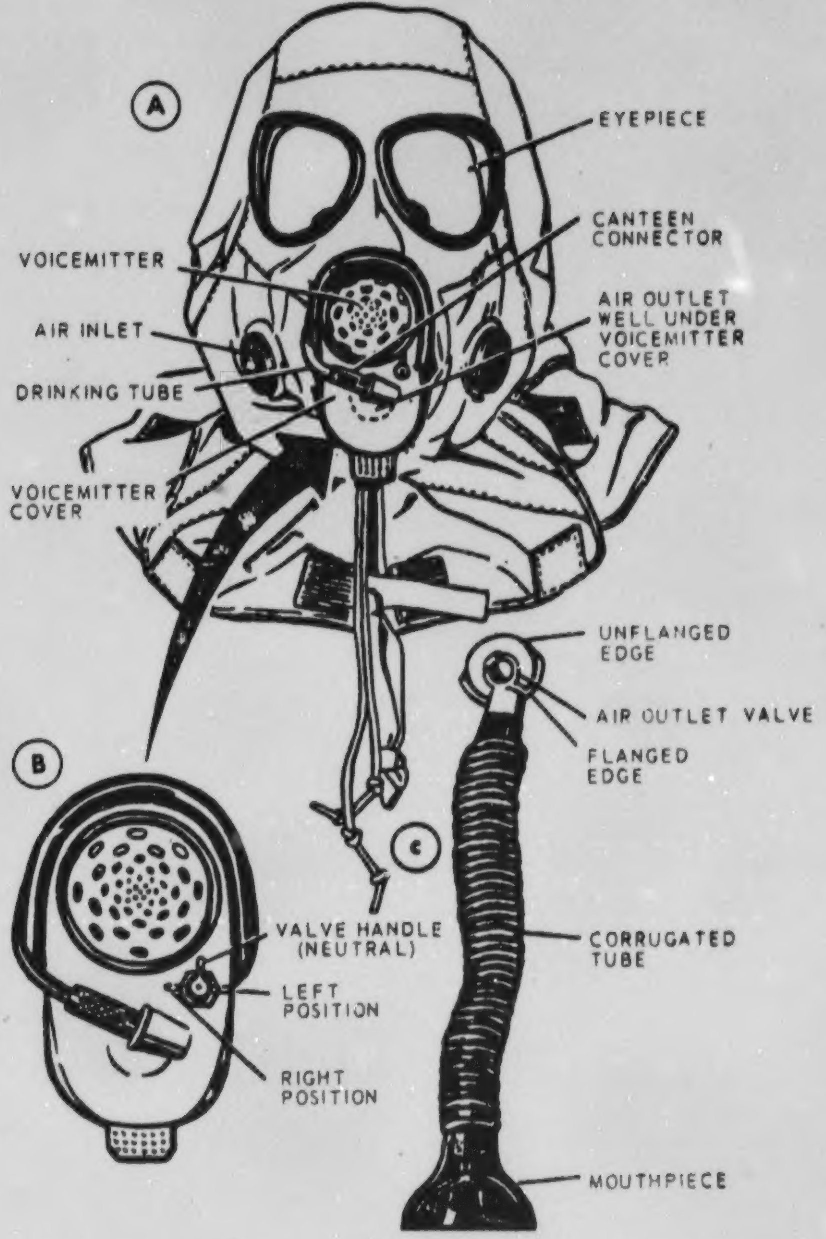
A
EYEPIECE
CANTEEN CONNECTOR
VOICEMITTER
AIR OUTLET WELL UNDER VOICEMITTER COVER
AIR INLET
DRINKING TUBE
VOICEMITTER COVER
UNFLANGED EDGE
AIR OUTLET VALVE
FLANGED EDGE
B
C
VALVE HANDLE (NEUTRAL)
LEFT POSITION
RIGHT POSITION
CORRUGATED TUBE
MOUTHPIECE

Figure 8-5. M17A1 field protective mask and M1 resuscitation tube.

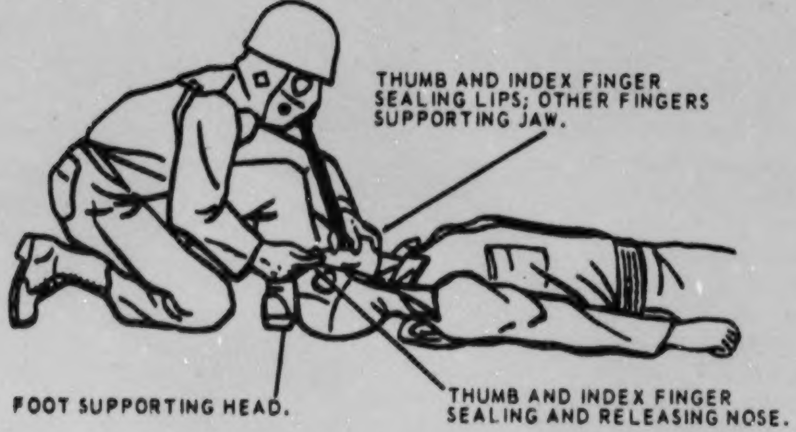
THUMB AND INDEX FINGER SEALING LIPS; OTHER FINGERS SUPPORTING JAW.
FOOT SUPPORTING HEAD.
THUMB AND INDEX FINGER SEALING AND RELEASING NOSE.

Figure 8-6. Mask-to-mouth artificial respiration.

8-5©) with an upward push, and then press the flanged edge inward as hard as possible.

8. To check whether or not a leakproof seal has been obtained, fold back and pinch the lower end of the corrugated tube (fig. 8-5©) and blow into your breathing tube bitepiece. If the corrugated tube does not tend to expand, remove and reinsert the outlet valve as in 2 above and then check again.

PREPARATION OF THE PATIENT

1. Raise the patient's protective mask only enough to expose his mouth and nose; then clear his airway. Turn his head to one side and quickly clear his mouth of any vomitus, mucus, or debris by running your fingers behind his lower teeth and over the back of his tongue. Remove any full or partial dental plates. Clear mask, if needed, and replace.
2. Position him on his back, his head in a chin-up position (fig. 8-1) and his jaw in a jutting-out position (fig. 8-2).
3. Insert the mouthpiece of the resuscitation tube (fig. 8-5©) between his lips and teeth (fig. 8-6). Slide only one-half of it into his mouth at a time. Insert the indented portion of the mouthpiece under the upper lip. Insure that the edges of the mouthpiece are completely sealed with his lips.
4. Secure the mouthpiece in place by forming a seal over his lips with your thumb and index finger. Hook the other three fingers under his chin to keep his jaw in a jutting-out position.

ARTIFICIAL RESPIRATION

1. With your free hand, pinch the patient's nose closed, take a deep breath, and blow into your breathing tube bitepiece. Be sure your first five breaths are deep and fast to provide for rapid reoxygenation of blood. After this, blow at the rate of 12 to 20 per minute.
2. Continue blowing while watching for his chest to rise. If it does not, hold his chin up more forcefully and blow harder. If his chest still does not rise, check all connections for leakage of air.
3. When his chest rises, stop blowing and release his nose, letting him exhale. As soon as he exhales, close his nose again.
4. Continue blowing and allowing him to exhale. If his exhalation is noisy, hold his chin up more forcefully or check for the presence of secretions in his upper airway.
5. When he begins to breathe on his own, adjust your breathing to assist him. Blow only when he is inhaling.
6. When he breathes regularly, stop blowing air into his lungs but leave the resuscitation tube in place, thus allowing him to inhale uncontaminated air through your mask. Be sure to close his nose when he inhales and open it when he exhales. If he does not continue to breathe regularly, resume mask-to-mouth resuscitation.

TERMINATION OF ARTIFICIAL RESPIRATION

1. When the patient can breathe without assistance, remove the resuscitation tube from his mask and quickly replace the mask. Be sure it is properly sealed. Continue to observe him to insure that he does not stop breathing again

as the result of toxic vapor that may have accumulated in his mask.

2. Readjust your mask:
   - *a.* Release the breathing tube bitepiece, thus allowing it to spring back to its neutral position (fig. 8-5Ⓑ).
   - *b.* Disconnect the resuscitation tube from your mask by pulling it outward and upward, and replace the voicemitter cover.
   - *c.* Wipe the mouthpiece of the resuscitation tube clean and stow in the carrier.

Section III. EMERGENCY SURGICAL AIRWAY

8-6. Emergency Cricothyroidotomy

a. Most airway difficulties are relieved by nonsurgical measures, such as expired air technique of artificial respiration. Persistent obstruction during such measures requires an emergency surgical airway for relief. In such cases the procedure of choice for the specialist without surgical skill is cricothyroidotomy. Before attempting this operation, however, a specialist should have had prior training and have tried conservative measures first.

b. A cricothyroidotomy is an incision made through the skin and cricothyroid membrane covering the cricothyroid space to provide an emergency airway into the larynx. This cricothyroid space is located between the cricoid and thyroid cartilages (fig. 2-24). It is shaped somewhat like the lower lip and measures about 2 cm. at the widest part vertically. The membrane covering the space is thin but relatively tough.

c. The patient in the early stages of complete respiratory obstruction, or with partial but progressive obstruction, struggles for breath. There is straining of neck and chest muscles and other evidence of a frantic effort to regain ventilation. There may be wheezing or crowing noises. The facial features may be livid red, blue, or nearly white. If the obstruction is not relieved, respiratory weakness and failure follow as the brain centers become affected by anoxia. The specialist should consider a cricothyroidotomy necessary when airway obstruction persists after artificial respiration by the expired air technique fails to inflate the lungs. The need for a cricothyroidotomy can, therefore, be determined within seconds, and if the patient's life is to be saved, the operation must be performed immediately by the personnel present and with the equipment at hand.

EQUIPMENT

1. *Cutting instrument.* Since an emergency airway only requires cutting through skin less than one centimeter in depth and perforation of a thin membrane, any sharp instrument that is immediately available, whether it be surgical knife, scissors, razor blade, pen knife, broken glass, sharp piece of tin, or safety pin may be used.
2. *Tube or spreader.* Almost any type of tube or small instrument may be used to keep the surgical airway open so that air can pass through. In many instances, however, the surgical opening stays open without aid; therefore, the operation is not delayed while tubing is sought. If a standard tracheotomy cannula is available, it is used; otherwise, rubber or plastic tubing, fountain pen barrel, fingernail clippers, or some such item may be used.

PROCEDURE FOR EMERGENCY CRICOTHYROIDOTOMY

1. Get cutting instrument and, if immediately obtainable, tubing or spreading instrument.
2. Put patient in the chin-up position (fig. 8-1).
3. First locate the thyroid and cricoid cartilages. These cartilages are situated in the midline at the midpoint of the neck. At the top of the thyroid cartilage is a V-shaped notch close to the top of the neck. In most men, the thyroid cartilage or "Adam's Apple" is easily located. (However, in females and children, the cricoid cartilage may be just as prominent or even more prominent than the thyroid cartilage.) Below this thyroid cartilage is the cricoid cartilage. Just below these two cartilages are the tracheal rings. Identify the thyroid and cricoid cartilages by sliding your finger down the patient's neck. With other than adult male patients, confirm the identification by sliding the finger upward from the tracheal rings.
4. Place the tip of the finger between the thyroid and cricoid cartilages. The transverse (crosswise) depression which can be felt is

the cricothyroid membrane over the cricothyroid space. Lift your finger and mark the spot on the skin visually.

5. Make a 1- to 2-inch transverse incision through the skin over the cricothyroid space. Do not attempt to cut through the membrane when making this skin incision because of the possibility of damaging the cricoid cartilage, thus causing a chronic laryngeal condition which would affect both the voice and breathing. If only a relatively dull cutting instrument is available, pinch up the skin and cut with a (crosswise) sawing action from side to side.
6. Relocate the cricothyroid space. With the skin incised, the membrane over this space is readily seen; however, exposure to direct vision is not essential. If necessary, relocate the space manually by again feeling the thyroid and cricoid cartilages with the finger.
7. Cut or perforate—but do not stab—the cricothyroid membrane. Enlarge the opening by cutting in a horizontal direction, using a lateral withdrawing motion.
8. Insert the tracheotomy cannula or a tube-like item into the cricothyroid space to keep the airway open.
9. If respiratory difficulty continues after the establishment of this surgical airway, apply mouth-to-cannula (tube) breathing. If rescue breathing fails, apply suction to the patient's air passages (para 8-7).
10. Secure the tracheotomy cannula or the tube-like item in place. A rubber or plastic tube and other tube-like item may be anchored with adhesive tape, twine, or cord. Also a large safety pin may be stuck through two sides of a soft tube to prevent it from slipping into the airway.

USE OF THE TRACHEOTOMY CANNULA

The tracheotomy cannula (para 5-110) consists of three parts: an outer cannula with plate to which retaining straps are later fastened; an obturator, which is an olive-tipped, curved rod used to guide the outer cannula into the surgical opening; and an inner cannula, which is inserted into and locked in the outer cannula after the obturator is withdrawn and which may be removed as often as necessary to clear it of mucus and blood. The tracheotomy cannula is inserted as follows:

1. Place the obturator inside the outer cannula with its olive-shaped tip extended beyond the end of the cannula.
2. Insert the outer cannula into the surgical opening, letting the olive-shaped tip guide the cannula into the air passage.
3. Remove the obturator from the outer cannula.
4. Insert the inner cannula into the outer cannula, turning the key to secure it in place.
5. Secure the outer cannula in place with two strips of gauze, tape, or cloth, fastening them to the openings on each side of the plate of the outer cannula and tying the other ends around the patient's neck (fig. 8-7).
    a. In order to fasten the strips to the plate, make a slit about 1 inch from the end of each strip. Insert these ends through the openings on the plate. Thread the loose ends through the slits and draw smoothly and snugly into place.
    b. In tying the loose ends around the patient's neck, use a square knot and tie it at a point where it will not press against the neck.
6. Place a soft sterile gauze square under the plate of the outer cannula to protect the skin from moisture and irritation. This is accomplished by slitting the gauze square from one side toward the center and pulling the gauze gently under the plate and toward the chin.

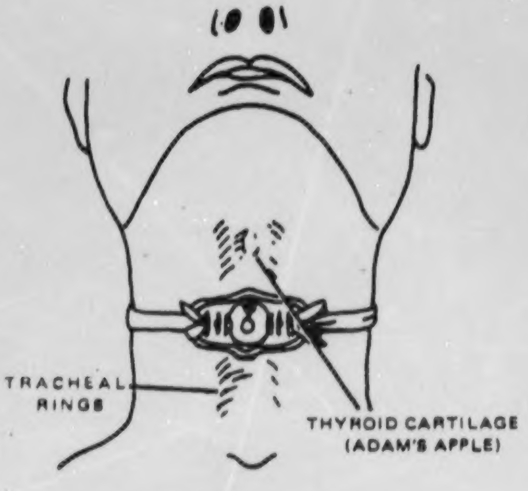

Figure 8-7. Tracheotomy cannula secured at site of cricothyroidotomy.

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8-7. Airway Suction

After cricothyroidotomy, suction is applied within the trachea and, if necessary, to one or both bronchi in order to remove by vacuum the fluid, mucus, clotting blood, or vomitus that postural drainage (para 5-70) and coughing do not remove sufficiently to clear the airway. In the emergency medical treatment situation, suction is indicated when any one of the following conditions occur:

a. Symptoms of anoxia are not lessened in intensity immediately after surgical opening of the air passage, and inflation of the patient's lungs cannot be accomplished by prompt mouth-to-tube breathing.

b. The emergency surgical airway is in danger of becoming ineffective due to accumulation of mucus, fluid, and the like. Suction in this instance is done as a preventive measure.

c. The emergency surgical airway has become clogged (as from vomit or sudden release of deep-lying mucous plugs or blood clots). Such clogging may occur, but should not be allowed to occur, from neglect; *for example,* failure to clean the cannula or tube properly (para 8-8) or failure to start preventive suction.

EQUIPMENT

In the absence of equipment designed for the purpose, improvised suction apparatus may be devised. Two components are required: suction tube and vacuum source.

1. *Tubing.* Tubing of sufficient length to reach at least the distance from the patient's surgical airway to past the bronchial attachment is required. Tubing should have an outside diameter small enough to pass easily through the surgical airway or outer tracheotomy cannula if one is attached, and as large an inside diameter as possible. Tubing must be soft, but walls must not be so weak that the tube will collapse when suction is applied. A urinary catheter is suitable for this purpose. Since the catheter holes are near the tip but on the sides, cut the catheter through the center of the upper hole; discard the tip and lower hole. Do not insert infusion set tubing into the trachea; it is much too hard.
2. *Vacuum source.* Vacuum may be created in the tube by attaching a large-capacity hypodermic syringe and pulling back on the plunger, or by taking the free end of the tube in the mouth and sucking. If the syringe is used, it may be necessary to hold the tube tightly over its tip if the inside diameter of the tube is too large to fit.

PROCEDURE

1. Insert one end of the tube through the surgical opening. If a tracheotomy cannula is in place, remove the inner cannula first. Remove or leave in place any improvised tube or spreader as good technique may warrant.
2. Run about 5 inches of the tube into the opening.
3. Draw slight vacuum. If no resistance is felt, carefully push the tube in about 2 more inches and test again. Continue insertion and testing until resistance is felt on drawing the vacuum. During this probing, the point where the bronchi branch may have been reached or passed, and touching of tissue with the end of the tube may have been felt as resistance to further insertion. Do not force the tube. When tissue resistance is felt on the tube, withdraw it slightly, and maneuver it until the foreign substance obstructing the airway is found.
4. When resistance on the vacuum is felt, draw additional vacuum to syphon the fluid or other foreign substance. If resistance is hard, move the tube slightly as the tip may be resting, and the vacuum drawing, against tissue instead of an airway obstruction that will respond to syphoning.
   - a. With a syringe as the vacuum source, draw fluid into the syringe; then disconnect syringe, discharge fluid, reconnect syringe, and repeat cycle as necessary until airway is clear.
   - b. With the mouth as the vacuum source, draw vacuum and fluids into mouth by inspiration, pinch tube, remove mouth from tube, expel fluids from mouth on exhalation, replace mouth, and repeat cycle until the patient's airway is clear. If the mouth is the best available vacuum source and if syphoning fluids into the mouth cannot be tolerated, two alternatives are suggested for use when time permits.

Alternate 1. Connect sufficient clear used (but clean) tubing between mouth and tubing in the surgical opening so that level of fluid drawn may be seen. Syphon fluid until the level is near the mouth; pinch soft tubing near the level of the surgical opening breaking the connection between the soft tubing and the clear extension; expel fluid from clear extension by blowing; remake connection; replace mouth; release pinch; and continue suction cycle until patient's airway is clear.

Alternate 2. Draw vacuum on soft tubing in patient's airway to equal volume of a normal inspiration, pinch the tube, withdraw it, release pinch, discharge (blow out) the aspirated contents, wipe and reinsert the tube, and repeat the cycle as necessary to make the patient's airway patent.

5. When the airway is clear, remove the suction tube and make such adjustments at the emergency surgical opening as are necessary.

8–8. Maintenance of a Clear Surgical Airway

Maintenance of a clear surgical airway requires clearing it of the mucus and other fluids which tend to collect after a cricothyroidotomy. These fluids are wiped away from the opening to prevent their aspiration. Improvised tubes are removed periodically, blown and wiped clean, and replaced. Instillation of lint or fuzz in the airway is avoided. The inner cannula of the tracheotomy tube is released, removed, cleaned, replaced, and locked. Bubbles or froth at the opening or noisy breathing when the patient's neck is extended (fig. 8–1) indicate fluid collection. If such signs continue after the opening, tube, or cannula has been cleaned, suction should be done before signs of respiratory distress appear in the patient.

Section IV. CARDIAC MASSAGE

8–9. Cardiac Arrest

a. Causes. Cardiac arrest or heart stoppage may be caused by blockage of critical blood vessels or by insufficient oxygen to the heart or the brain centers which control its functions, as in hemorrhage. Other causes include diseases of the heart, shock, malnutrition, anemia, and the effects of drugs, especially those affecting the regulatory brain centers.

b. Symptoms. In cardiac arrest, there is absence of pulse, heartbeat, and heart sounds. Stoppage is quickly followed by cessation of respiration, if that has not previously occurred, and wide dilation of the pupils of the eyes. The person is unconscious and limp. Since the diagnosis of cardiac arrest must be made with rapidity if the patient is to be resuscitated successfully, the absence of pulse in the carotid artery should be the determining symptom. The pulse of the carotid artery is easily felt with the fingers by tilting the patient's head to a chin-up position (fig. 8–1), placing the heel of the hand over the midline of the patient's trachea, and resting the fingers on his throat parallel to the lower jaw line. If there is doubt, the pulse should be considered absent.

8–10. Principle of Cardiac Massage

a. Cardiac massage that may be performed by specialists consists of a rhythmical compression of the patients heart through the intact chest wall. It is a means of producing circulation artificially, thus keeping blood flowing to the brain and other organs until the heartbeat is reestablished.

b. Within the thorax, lateral motion of the heart is limited by the pericardium, a loose-fitting, fluid-lubricated, membranous sac which surrounds the heart and is fastened to structures comprising the boundaries of the thorax. Accordingly, pressure applied on the sternum pushes the heart against the spine, forcing blood from the heart into the arteries. Relaxation of this pressure allows the heart to fill with venous blood. The thoracic cage is normally resistant to pressure but is surprisingly resilient in cardiac arrest.

c. Cardiac massage must be instituted immediately upon determining the absence of a pulse. Since cardiac arrest is always accompanied by respiratory failure, expired-air artificial respiration must be administered simultaneously or alternately with cardiac massage (fig. 8–8), depending upon whether one or two persons are available to administer these resuscitative measures.

PROCEDURE

1. Prepare the patient for expired air artificial respiration (para 8–5). Be sure that the surface on which the patient is placed is solid. A litter, floor, or the ground is satisfactory; a bed or couch is too flexible unless a board is placed under the mattress.
2. Position yourself. Kneel at a right angle to the patient's chest so that you can use your weight to apply pressure on his sternum. Place the heel of one hand on the lower half of the sternum. Spread and raise your fingers so you can apply pressure without pressing

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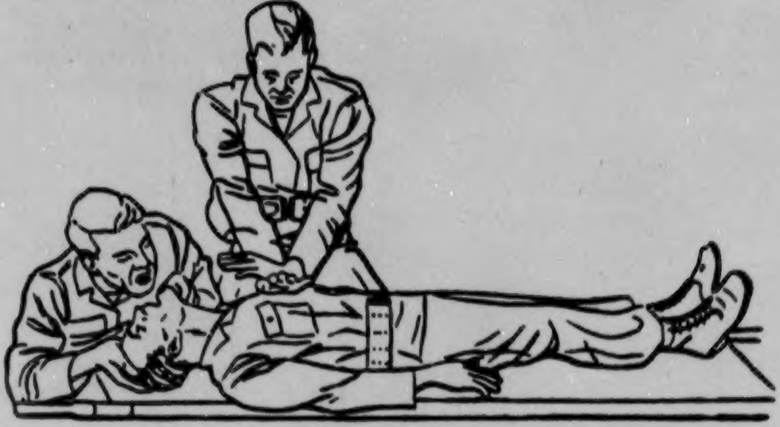

Figure 8-8. Closed-chest heart massage and expired air artificial respiration when two persons are available.

the patient's ribs. Place your other hand on top of the first.

CAUTION

If the patient is a child, omit placing the second hand over the first; if the patient is an infant, place only the fingertips of one hand on the sternum.

3. Apply pressure. Lean forward so that your arms are perpendicular to the patient's sternum and press downward with your hands. Apply enough pressure to depress the sternum 1½ to 2 inches (fig. 8-9). Further depression is likely to fracture the patient's ribs and damage underlying soft structures.

CAUTION

If the patient is a child, apply relatively light pressure with one hand. For infants, especially the newborn, the pressure you can apply with your fingers probably will be more than sufficient to depress the sternum the slight distance necessary to produce blood circulation.

4. Release pressure immediately, lifting the hands slightly.
5. Continue cardiac massage. Repeat the press-release cycle in a cadence of about 60 per minute. After a few minutes, check for a pulse at the carotid artery visually or as in paragraph 8-9*b*. If a pulse cannot be detected, elevate the patient's legs about 6 inches above the level of his head to help the return of blood to his heart. Continue the cardiac massage and the mouth-to-mouth artificial respiration until the patient is able to function without assistance, until you are relieved, or until you are certain that the patient is dead. If performing alone, give one cycle of artificial respiration, then four cycles of cardiac massage. Continuance may involve performing these measures long after you feel bodily discomfort and fatigue. However, stopping these measures must rest on the judgment of the most qualified person available, NOT on the discomfort of the resuscitator.

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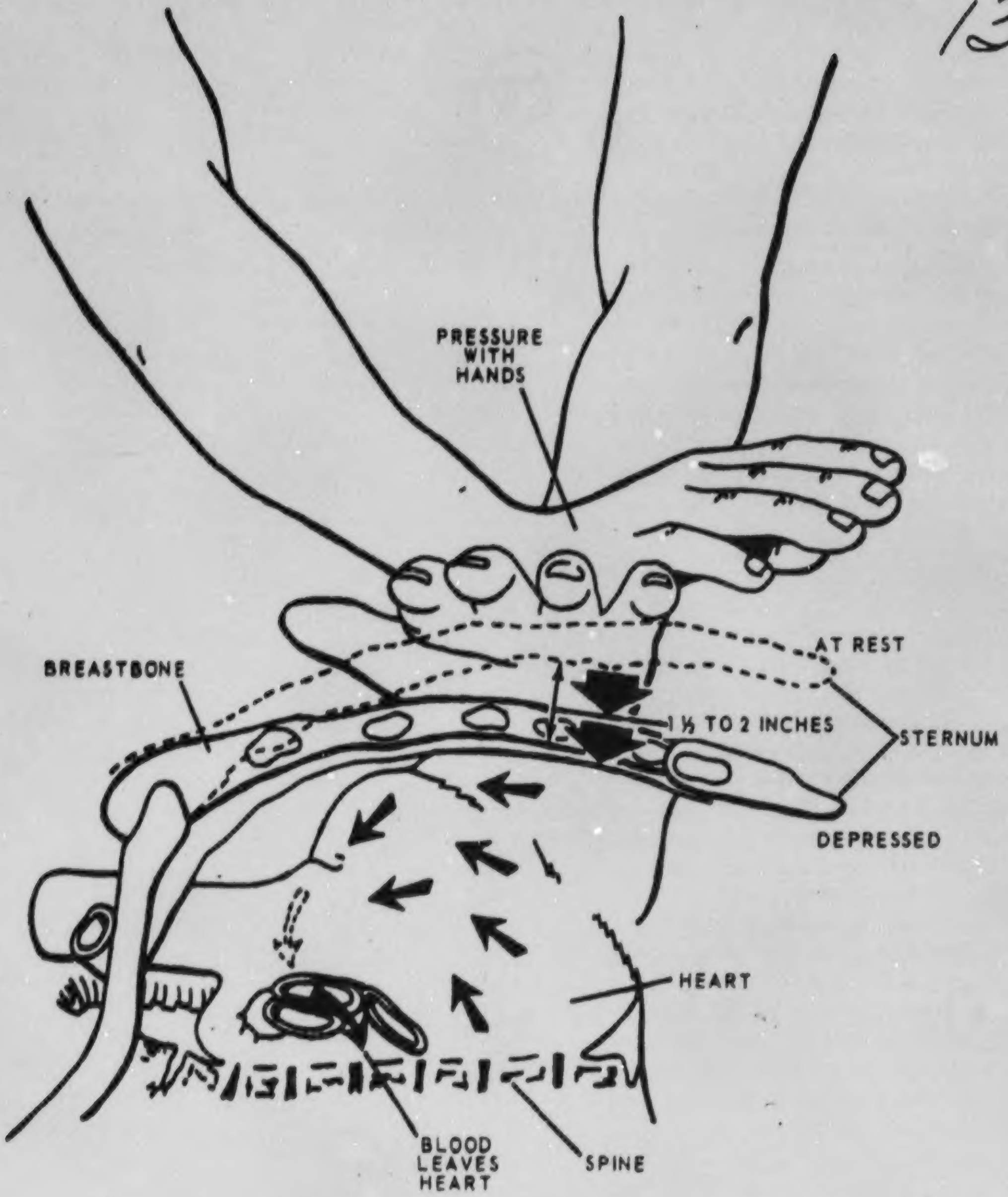

PRESSURE WITH HANDS
AT REST
BREASTBONE
1½ TO 2 INCHES
STERNUM
DEPRESSED
HEART
BLOOD LEAVES HEART
SPINE

Figure 8-9. Pressure on sternum forces blood out of heart.

Section V. HEMORRHAGE

8-11. Acute Hemorrhage

a. Acute hemorrhage consists of sudden or rapid loss of blood from the circulatory system within a few minutes or hours as a result of an opening or openings in the circulatory system. The body in general and the cardiovascular system in particular react to the stress of any injury to the circulatory system. Shock is apparent after the sudden loss of 15 percent or more of the circulating blood volume. The sudden loss of 50 percent of the circulating blood volume usually resuts in death unless this volume is partially or fully restored. The seriousness of hemorrhage lies in both the rate and the amount of blood volume reduction, which are related to the number, type, and location of the vascular structures opened. If a vein and an artery of equal size are severed, blood will escape more rapidly from the artery because it is forced out in spurts under the maximum pressure from each heartbeat. Venous hemorrhage, however, can also be fatal if not controlled.

b. Whole blood lost from capillary damage is of negligible importance in amount. Blood loss from capillaries and small veins is referred to here as bleeding.

8–12. Types of Hemorrhage

a. External hemorrhage is loss of blood to the outside of the body and is obvious. The type of blood vessel open may be established by observing the color and flow of the blood issuing from the wound. Arterial blood is bright red (because of its high oxygen content) and escapes in spurts.

b. Internal hemorrhage occurs when there is an opening in the cardiovascular system but none directly to the outside of the body. Swelling and discoloration may be seen in some instances. Swelling and pulsation in an arm or leg may indicate arterial hemorrhage within the affected limb. Internal hemorrhage in a thigh may be detected by measuring and comparing the circumferences of the two thighs. Hemorrhage within the head or lungs may be indicated by bleeding from the nose or mouth, or from the ears in the case of the head. Hemorrhage within the chest or abdominal cavities may be indicated by signs of shock (fig. 5–83).

8–13. Physiologic Reaction

Whenever an artery or vein is opened, the injured vessel constricts and, if severed, retracts into the tissue, thereby reducing the size of the opening and facilitating clot formation. In addition, other blood vessels temporarily constrict as a part of the general reaction to injury. This generalized vasoconstriction helps maintain blood pressure by reducing the size or capacity of the circulatory system. At the site of injury, the blood tends to clot and plug up the opening. If vasoconstriction and blood clotting are unsuccessful, the resulting blood volume reduction causes a fall in blood pressure which, among its other effects, facilitates clot formation. If hemorrhage persists, the person dies from lack of oxygen.

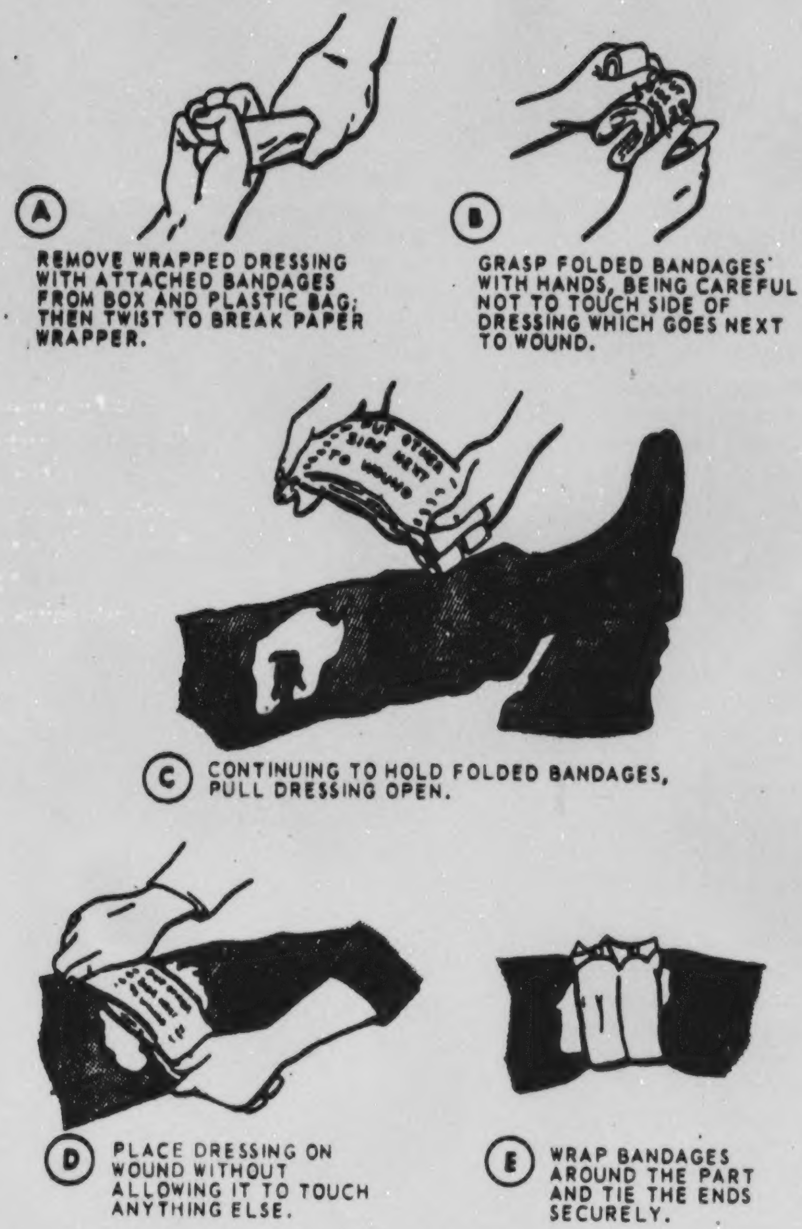
8–14. Methods for Control of Hemorrhage

a. Methods for Control of External Hemorrhage. Control of external hemorrhage is best accomplished if the hemorrhaging wound is first exposed to view. Clothing or other material over the wound should be cut, torn, or lifted away carefully so that additional harm is not inflicted upon the patient. Unnecessary movement, or exposure of the patient to coolness must be avoided; cooling conditions work against the patient by inducing or hastening a lowering of his body temperature.

(1) *Pressure dressing.* Use of the pressure dressing is the method of choice for medical specialists in the control of external hemorrhage in an emergency medical treatment situation. The purpose in applying a sterile dressing with pressure (fig. 8–10) to a hemorrhaging wound is threefold: to facilitate clot formation, to compress the open blood vessel, and to protect the wound from further invasion by infectious organisms.

(*a*) *Assistance in clot formation.* The dressing is of absorbent material which spreads and slows the blood it absorbs. This spreading and slowing action exposes a relatively large and thin surface of the outflowing blood to the air and thereby facilitates clot formation. Accordingly, one dressing partially filled with the patient's blood is more effective in controlling hemorrhage than are a series of others because clot formation is in progress in the bloody dressing. The clot formation tends to spread back toward and into the wound until diminished air exposure, coupled with an adequate circulating velocity (speed), brings it to a halt. It is the clot that stops the hemorrhage. If the blood had no ability to clot, the absorbent dressing applied would merely draw blood out through the wound and do more harm than good. When blood is about to clot, it begins to turn darker in color and becomes progressively darker as the clot takes form. A hard clot is almost black.

(*b*) *Vessel compression.* Direct pressure on a wound usually is very effective in controlling hemorrhage. The pressure is applied for the purpose of minimizing the size of the vessel opening, temporarily or for an extended period, thereby lessening the amount and the velocity of the escaping blood and aiding clot formation. Considerable pressure may be applied to a wound if there is no broken bone in or near it. Hemorrhage does not always stop immediately. At times, hard pressure on the dressing over the wound may be required for several minutes until a clot has formed with sufficient strength to hold with only the help of the dressing ties. (If a clot does not form, a tourniquet must be considered, if feasible.) The


A
B
PUT OTHER SIDE NEXT TO WOUND
C
D
E

A REMOVE WRAPPED DRESSING WITH ATTACHED BANDAGES FROM BOX AND PLASTIC BAG; THEN TWIST TO BREAK PAPER WRAPPER.

B GRASP FOLDED BANDAGES WITH HANDS, BEING CAREFUL NOT TO TOUCH SIDE OF DRESSING WHICH GOES NEXT TO WOUND.

C CONTINUING TO HOLD FOLDED BANDAGES, PULL DRESSING OPEN.

D PLACE DRESSING ON WOUND WITHOUT ALLOWING IT TO TOUCH ANYTHING ELSE.

E WRAP BANDAGES AROUND THE PART AND TIE THE ENDS SECURELY.

Figure 8-10. Application of pressure dressing.

dressing should be anchored over the wound by the use of attached ties (fig. 8-10) or by using additional bandaging material. The dressing should be anchored snugly to prevent slipping but not tightly. (The wounded part, especially if it is an arm or leg, will swell after a time, tightening the bandage still more and impairing or stopping circulation in the part, to the detriment of the patient.) If signs of renewed hemorrhage from the wound appear after a dressing is snugly in place, reapplication of manual pressure may be all that is necessary to assist formation of a clot of sufficient strength to occlude the vessel. Signs of renewed or continued hemorrhage are appearance or enlargement of a bloodstain on the outer surface of the dressing, and appearance or continuance of blood trickling between the dressing and the skin.

(c) *Protection from infectious organisms.* An external wound becomes contaminated with microorganisms at the moment of occurrence. The prompt application of a sterile dressing serves to limit the entrance of additional organisms which may cause infection. Once a dressing is applied, specialists should leave it in place if at all possible. Removal permits entrance of additional microorganisms and may disturb the blood clot so that hemorrhage begins again. Also, leaving the original dressing in place helps the surgeon viewing it later to estimate the amount of blood the patient has lost. When a wound is being dressed, care must be taken to avoid either touching the wound or the surface of the dressing that is to be placed directly on the wound, breathing onto the dressing or wound, stirring up dust about the patient area, or doing or allowing other actions which would permit infectious organisms to enter the wound.

(2) *Elevation of wounded limb.* Frequently, hemorrhage, especially of the venous type, can be lessened appreciably by raising the wounded limb to a height above that of the heart. (As elevation tends to drain the elevated limb by gravity, an initial gush of blood downward from open veins may be expected when the limb is first elevated.) Elevation helps to lower the blood pressure at the wound site. Elevation may be used before, during, or after application of a pressure dressing, depending mainly on the type and severity of the wound. The patient may be instructed to elevate a nonserious wound while waiting for a dressing and to maintain the height after the dressing is applied. Serious hemorrhage, especially of the arterial type, may require simultaneous and continuous application of elevation, dressing, and pressure. If there is a broken bone in the wounded limb, elevation must be postponed until after the limb is splinted.

(3) *Pressure points.* A pressure point is a place where a main artery supplying the wounded area lies near the skin surface and over a bone. Pressure at these points is applied with the fingers or thumbs (digital pressure) or with the hands. The object of the pressure is to compress the artery against the bone, thus occluding (shutting off) the flow of blood from the heart to the wound. Since it is often difficult to maintain occluding pressure manually on a pressure point, the pressure point method is used only until a pressure dressing can be applied.

(*a*) *Temple or scalp.* Hemorrhage in the region of the temple or from the scalp may be controlled by compressing the main artery to the temple against the underlying skull bone (fig. 8-11Ⓐ) just in front of the ear and above the prominent cheek bone (zygomatic arch).

(*b*) *Lower face.* Hemorrhage of the face below the level of the eyes may be controlled by applying digital pressure to the artery in the notch on the under side of the lower jaw (mandible) (fig. 8-11Ⓑ). This notch is easily located by running a finger from the angle of the jaw forward until the notch is encountered on the under side.

(*c*) *Neck.* Hemorrhage of the neck may be controlled by applying digital pressure below the wound and just in front of the prominent muscle on the side of the neck (sternocleidomastoideus) (fig. 8-11Ⓒ), pressing inward and slightly backward, and compressing the carotid artery against the spinal column. When this pressure point is used, care must be taken not to choke the patient.

(*d*) *Shoulder or upper part of upper arm.* If hemorrhage is from either of these areas, digital pressure is applied behind the collarbone (clavicle) (fig. 8-11Ⓓ). The artery may be compressed against either the clavicle or the underlying first rib; usually pressure against the rib produces less pain in the patient.

(*e*) *Mid-upper arm and elbow.* Hemorrhage from either of these areas may be controlled by applying digital pressure on the inner (body) side of the arm, about halfway between the shoulder and the elbow (fig. 8-11Ⓔ), compressing the artery against the bone of the upper arm (humerus).

(*f*) *Forearm.* Hemorrhage from the lower arm may be controlled by applying digital pressure at the elbow (fig. 8-11Ⓕ).

(*g*) *Hand.* Hemorrhage from the hand may be controlled by applying digital pressure at the wrist (fig 8-11Ⓖ).

(*h*) *Thigh.* Hemorrhage from the thigh may sometimes be controlled by digital pressure against the mid-groin from behind (fig. 8-11Ⓗ), collapsing the artery against the nearby bone of the thigh (femur). At other times, pressure against the inner aspect of the mid-thigh may be more effective. If the mid-thigh pressure point is used, pressure should be applied with the heel of the hand while the hand is closed into a fist and is reinforced by placing the other hand on top (fig. 8-11Ⓘ). Considerable pressure is necessary at this point to collapse the femoral artery against the femur because both lie deeply imbedded in some of the heaviest musculature of the body.

(*i*) *Lower leg.* Hemorrhage from the leg between the knee and the foot may be controlled by firm pressure at the knee. Pressure at one or both sides of the knee may be sufficient. If not, hemorrhage may be controlled by holding the

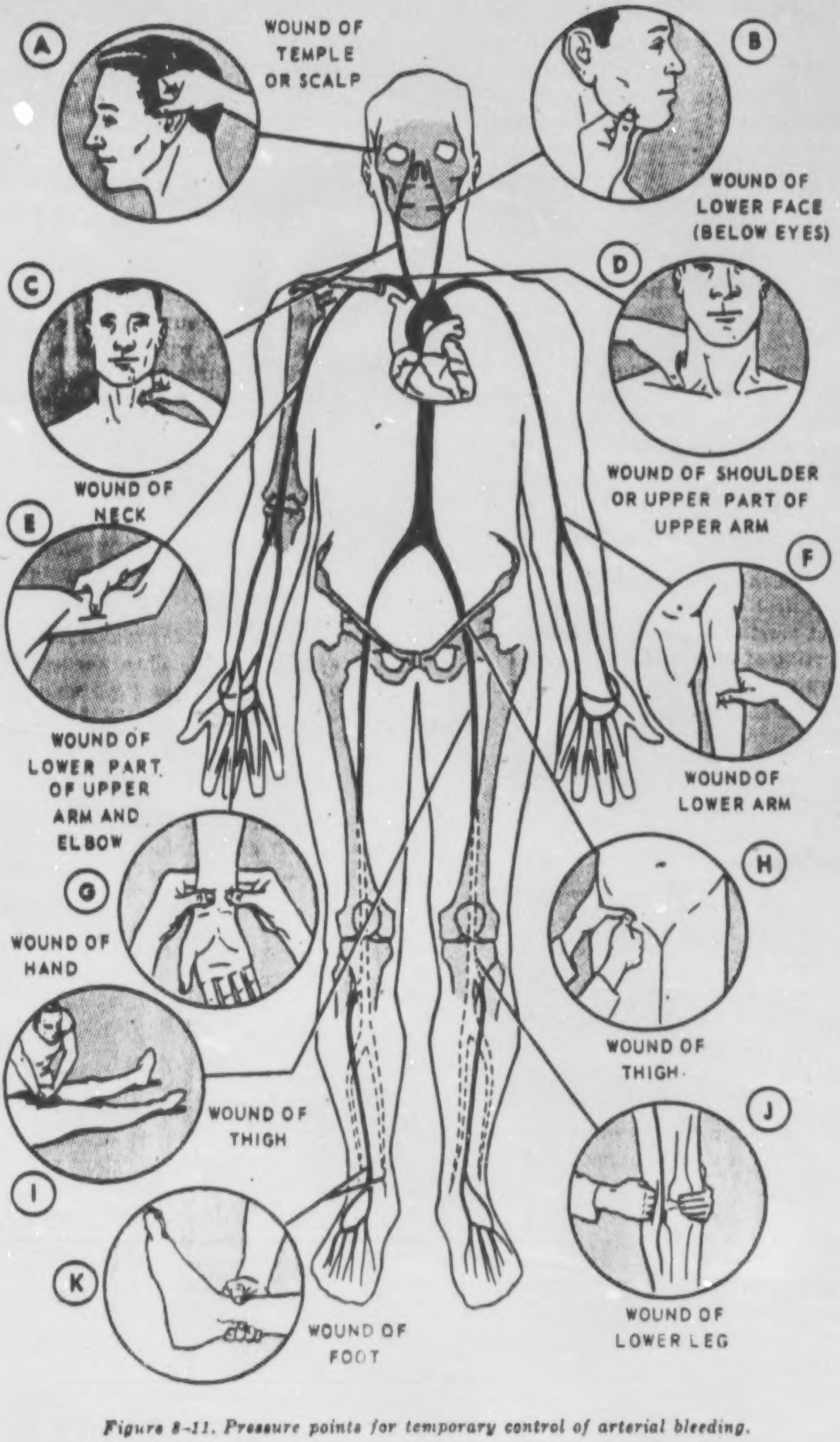

A
WOUND OF TEMPLE OR SCALP
B
WOUND OF LOWER FACE (BELOW EYES)
C
D
WOUND OF NECK
WOUND OF SHOULDER OR UPPER PART OF UPPER ARM
E
F
WOUND OF LOWER PART OF UPPER ARM AND ELBOW
WOUND OF LOWER ARM
G
H
WOUND OF HAND
WOUND OF THIGH
WOUND OF THIGH
J
I
K
WOUND OF FOOT
WOUND OF LOWER LEG

Figure 8-11. Pressure points for temporary control of arterial bleeding.

front of the knee firmly with one hand (fig. 8-11Ⓙ) and thrusting a fist hard against the artery behind the knee (popliteal).

(*j*) *Foot.* Pressure by the hand around and just above the ankle is effective in the control of hemorrhage from the foot (fig. 8-11Ⓚ).

(4) *Use of the tourniquet.* A tourniquet is a constricting band placed around the circumference of one of the extremities (arms and legs). When used in connection with hemorrhage, its purpose is to stop hemorrhage.

(*a*) *Judgment.* In the emergency medical treatment situation, mature judgment is required in making the decision to apply or withhold a tourniquet. Blood flow stops at the tourniquet. Arterial blood flowing outward from the heart stops at the tourniquet. Venous blood flowing inward toward the heart stops at the tourniquet. Without circulating blood which transports life-sustaining oxygen, cells in the limb distal to (outward from) the tourniquet soon begin to die. While later surgical amputation of the limb distal to the point of application of the tourniquet does not necessarily always follow, medical specialists who decide to apply a tourniquet must do so with the realization that the distal portion of the limb probably will be sacrificed. A tourniquet applied to a patient must therefore represent a choice between saving a life and saving a limb—between death by exsanguination (drain of blood) and life minus a limb or a portion thereof. It must not represent a choice between the quick, sure results it produces and the sometimes time-consuming and tiring application of a pressure dressing to control hemorrhage. The decision to apply a tourniquet is irreversible. Once a tourniquet has been applied, it must be left in place until removed by the physician, who should see the patient as soon as possible. It must not be loosened and retightened in the mistaken belief that the portion of the limb distal to the tourniquet is being kept alive. The patient whose system has stabilized after the tourniquet has reduced the capacity of his circulatory system may not be able to withstand the shock of its sudden enlargement if the tourniquet is loosened.

(*b*) *Guideline.* Good technique is the use of pressure points, pressure dressings, and elevation of limbs, where possible; this assures minimum necessity for use of tourniquets. Nonetheless, hemorrhage from a major artery of the thigh, lower leg or upper arm, or the hemorrhage from multiple arteries that is seen in traumatic amputation may prove beyond control by these methods. There is no set rule as to how long one should continue to try to control hemorrhage by pressure dressing and elevation of limb; however, in the emergency medical treatment situation, the absorbent capacity of the soldier's first-aid dressing may be used as a guideline.

- If all or nearly all the blood lost by the patient is contained in the first-aid dressing applied to the hemorrhaging wound, the patient probably has not lost more than 500 ml. of blood at most. This is the amount drawn from a donor who gives blood for transfusion. Thus, if the dressing becomes soaked through with blood but signs of clotting are also present, it is probable that continued pressure, with elevation, if possible, and perhaps with addition of absorbent material to that already in place, will facilitate clot formation and defeat the hemorrhage.
- If the dressing under hard pressure from the hand becomes soaked through, blood spreads rapidly to dry areas of the dressing and possibly drips or runs off, and no indication of clot formation appears promptly on the dressing, there is little to gain from delaying application of a tourniquet.

(5) *Application of the tourniquet.*

(*a*) *Placement.* When needed, the tourniquet is placed around the limb and between the wound and the body trunk, which is to say, between the wound and the heart. It is never placed directly over a wound or fracture.

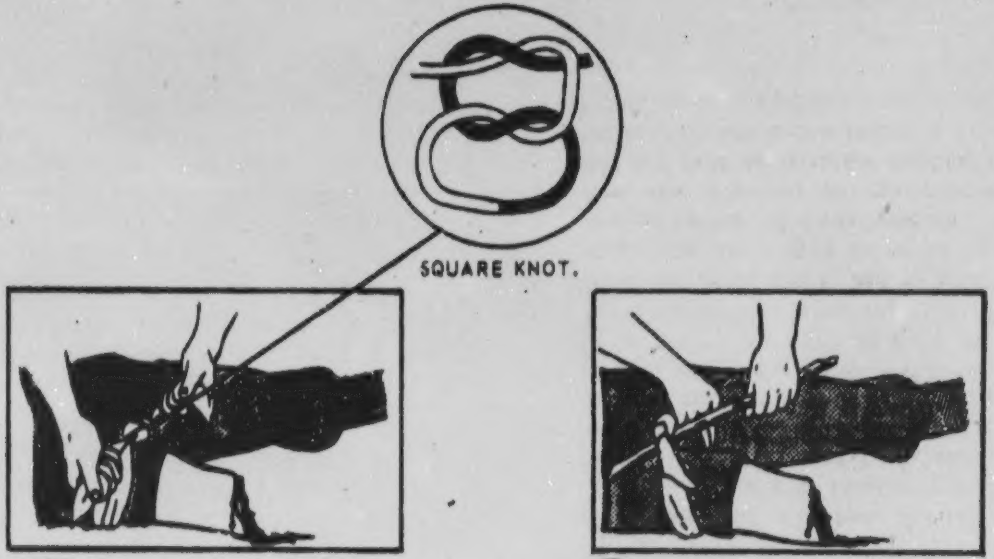
1. For amputation or partial amputation of the foot, leg, hand, or arm and for bleeding from the upper arm or thigh, place the tourniquet just above the wound or amputation site (fig. 8-12).

2. For hemorrhage from the hand or forearm with no associated amputation, place the tourniquet immediately above the elbow. For hemorrhage from the foot or lower leg with no associated amputation, place the tourniquet immediately above the knee.

(*b*) *Improvisation.* In the absence of specially designated tourniquets, improvised tourniquets may be made from strong, soft, pliable material such as gauze or broadcloth bandage, clothing, or kerchiefs. This material is used with a rigid stick-like object (fig. 8-12). To minilze skin damage, the improvised tourniquet should be made so that it is at least one inch wide *after* tightening. If gauze bandage is used, 3-inch ad 4-inch widths are preferable to the 2-inch width, which is very likely to become less than 1 inch wide after tightening.

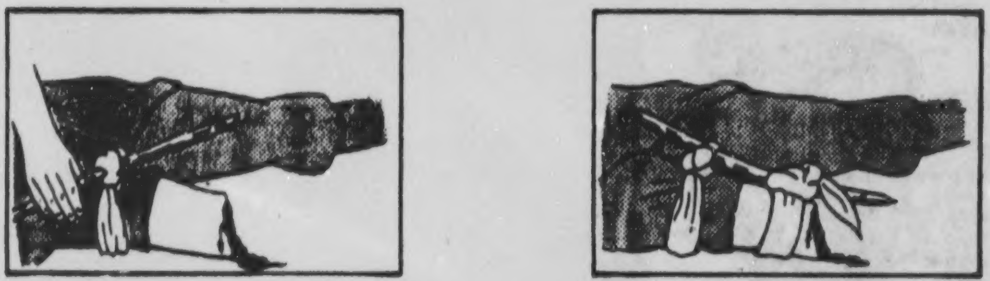
(*c*) *Tightening.*

- *Pressure.* The tourniquet is applied with enough


SQUARE KNOT.

Ⓐ MAKE LOOP AROUND LIMB; TIE WITH SQUARE KNOT.

Ⓑ PASS STRONG STICK UNDER LOOP.



Ⓒ TIGHTEN TOURNIQUET JUST ENOUGH TO STOP ARTERIAL BLEEDING.

Ⓓ BIND FREE END OF STICK TO LIMB TO KEEP TOURNIQUET FROM UNWINDING.

Figure 8-12. Application of tourniquet to thigh.

pressure to stop blood from passing under it. If a pulse has been detectable in the intact wrist or foot of the affected limb, tourniquet pressure is sufficient when the pulse ceases. If a pulse cannot be used as an indicator, you must rely on your judgment of reduction of blood flow from the wound. After a tourniquet is properly tightened, arterial hemorrhage will immediately cease, but bleeding from veins in the distal part of the limb will continue until these vessels are drained of the blood already in them. You should not continue to tighten the tourniquet in an attempt to stop this drainage.

- *Skin protection.* The skin beneath the tourniquet should be protected from pinching, twisting, and tourniquet overtightening. Skin is relatively resistant to oxygen deprivation and may survive even though the limb beneath it may require amputation later. Damaging the skin with the tourniquet may deprive the surgeon of skin required to cover the amputation stump, thus forcing amputation of more of the limb than might otherwise have been necessary. Skin may be protected from pinching and twisting from a tourniquet by placing soft, *smooth* material such as a shirt sleeve or trouser leg around the limb and beneath the tourniquet before tightening. Protection of the skin also reduces the amount of pain inflicted on the patient.

(*d*) *Dressing.* After arterial hemorrhage has ceased and the tourniquet is securely in place, the wound is dressed to protect it from further invasion by microorganisms.

(*e*) *Covering and marking the patient.* The condition of the patient and of the weather may require that the patient be covered. If so, the covering should be so arranged that the tourniquet remains in view. In addition, the presence of a tourniquet should be noted by plainly marking the patient's—

- *Forehead.* If possible, a large letter "T" should be marked on the patient's forehead to indicate that a tourniquet is in place. Also the time the tourniquet was applied should be indicated.
- *Field Medical Card.* The letter "T" and the time and date the tourniquet was applied should be marked on the patient's FMC or its substitute.

(*f*) *Monitoring.* The tourniquet and dressing should be inspected after 15 minutes to assure that arterial hemorrhage has not started again, and every 15 minutes thereafter until absence or stability of the size of any bloodstained area on the outside of the dressing indicates that venous drainage has stopped. Afterwards the tourniquet and dressing should be inspected periodically and adjusted if either has slipped. If at any time it is believed that arterial hemorrhage is continuing, the tourniquet should be tightened further. This judgment should be made without loosening, lifting, or removing the wound dressing.

b. Methods for Control of Internal Hemorrhage.

(1) *Thoracic or abdominal hemorrhage.* Specialists can do nothing directly to control hemorrhage into the patient's thoracic or abdominal cavities. Treating the patient to prevent or lessen shock may help stabilize his condition enough so that he can later withstand surgery. Mortality among such patients may be high, however, despite the best efforts of all concerned.

(2) *Internal hemorrhage of the extremity.* Pulsation and enlargement of an extremity, and sometimes enlargement that cannot otherwise be accounted for, indicate internal hemorrhage. If elevation of the extremity does not relieve the enlargement, a tourniquet may be necessary. If the hemorrhage is in the thigh and swelling is severe, a tourniquet is indicated, because the volume of blood lost from the circulatory system may induce shock and death. This is seldom true of internal hemorrhage in the lower leg or the arm.

Section VI. PREVENTION AND TREATMENT OF SHOCK

8-15. Shock

Shock may be defined as a manifestation of the rebellion of the body against a major insult or injury. It is, in effect, an alarm reaction. Shock is also a defensive mechanism. It may appear suddenly after trauma or develop insidiously. Its predominant characteristic is a reduction in the volume of the circulating blood, accompanied by vasoconstriction, which is followed by vasodilation, hypotension, rapid heartbeat (tachycardia), and prostration. The initial circulatory deficiency is rapidly complicated by widespread oxygen deprivation (hypoxia) and by a lessening of function of all tissues, especially of the brain, liver, heart, and kidneys. Three chief dangers are associated with shock—

a. Early syncope (loss of consciousness), which is mainly neurogenic and which may be fatal.

b. Progressive loss of blood from the active circulation, which may lead to failing heart output and insufficient oxygen to cells that are vital for survival.

c. Sustained hypotension (lowered blood pressure), which may lead to liver and kidney failure.

8-16. General Measures in Prevention of Shock

The ultimate objective in the prevention of shock is to preserve life. The intermediate objective with a wounded patient is to prepare him for surgery. A patient who has not been in shock withstands surgery better than one who has been resuscitated from shock. He must have an adequate supply of oxygen to the brain and to as much other tissue as possible. This objective is met through the control or relief of factors tending to reduce aeration and circulation of an adequate blood volume. Aside from or even in the absence of hemorrhage, circulatory collapse may be hastened or aggravated by a number of factors including fear, fatigue, and pain; dehydration as the result of vomiting, diarrhea, and excessive sweating; movement of the injured parts; sudden shifting of the position; a hot environment; and overdoses of morphine. Therefore, the following preventive measures should be carried out in all cases of impending shock except those in which the specific measure would be against the best interests of the patient.

PROCEDURE

1. Control hemorrhage. Use a pressure dressing, elevate the part, or apply a tourniquet as appropriate.

2. Assure adequate respiration. This may involve nothing more than insuring a free airway by merely observing the patient's breathing, sweeping his mouth with a finger to clear it of foreign matter, or positioning him to assure adequate drainage of any fluid obstructing his air passages. It may also involve performing artificial respiration or surgical operation.

3. Loosen constrictive clothing. Loosen clothing at the neck and waist and at other areas in which it tends to bind the patient. Loosen but do not remove shoes.

4. Reassure the patient. You can do this by reassuring yourself. Remember, if personnel better qualified to give medical treatment were available, you would not be attending the patient. Self-confidence and an attitude of expectancy of success of treatment, along with gentle yet firm actions in giving emergency medical treatment, do much to assure the patient that his best interest is being served. Jokes, ridiculous promises, and unneeded questions are as much out of place as rough handling, indecision, and predictions of impending doom. Acknowledge with a nod of the head and a brief look into his eyes his return to mental clarity, then continue with the treatment at hand. Be receptive and accessible, but initiate conversation only to give instructions or warnings or to take necessary information. Answer the patient's questions as briefly and as straightforward as possible in keeping with the situation. To the question, "Are you a doctor?" the reply, 'I am his assistant," is appropriate. To the question, "Will I be all right?" the answer, "We think so; that is why we are treating you and not someone else," is appropriate.

5. Relieve thirst. Thirst in the conscious patient who is not vomiting and who has no wound of the abdominal cavity or alimentary canal may be relieved by giving him warm stimulants such as coffee, tea, or cocoa to drink unless it is known that within the hour he will undergo general anesthesia for surgery. Water should be started if stimulant ingredients are not available. Do NOT give alcohol; it dilates the blood vessels. Cool salt water or salt-soda water is indicated for patients with serious burns. Encourage but do not force the patient to take liquids by mouth. Never pour fluid into the mouth of an unconscious person. He should take fluids slowly at first and with as little movement as possible. Rapid ingestion, motion, and straining for drinking position may bring on vomiting or collapse.

6. Splint fractures (FM 21-11 and FM 8-35).

7. Relieve pain. Proper dressing, bandaging, splinting, and positioning of the patient are the best measures for relieving pain. In the case of persistent severe pain, morphine may be indicated to prevent shock (para 8-20*b*).

8. Position the patient. When his condition indicates that a recumbent position will best serve his interest, generally either the semiprone position or the head-low position should be used. Other positions are discussed in connection with the special injuries with which they are used (para 8-36 through 8-48). In all instances, small amounts of soft material should be placed beneath the patient so that bony prominences such as those of the cheek, elbow, shoulder, hips, or knees do not press against the litter, ground, or other unyielding support.

   a. Semiprone (coma) position (fig. 8-13) may be used when the patient is unconscious; when there is a wound of the head, face, neck (except fracture) or chest; or when vomiting is likely. When the patient is in this position, drainage from the respiratory tract is helped.

   b. Head-low position (fig. 8-14). The head-low position may be used when the conscious patient has no external injury or has a wound of the limbs. The head-low

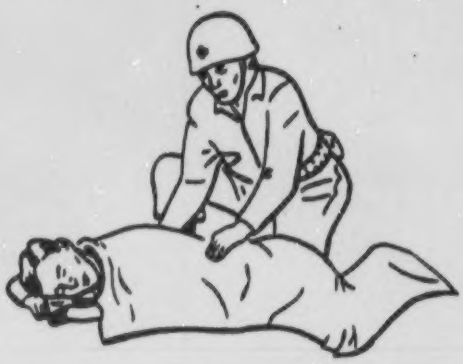


Figure 8-13. Semiprone (coma) position.

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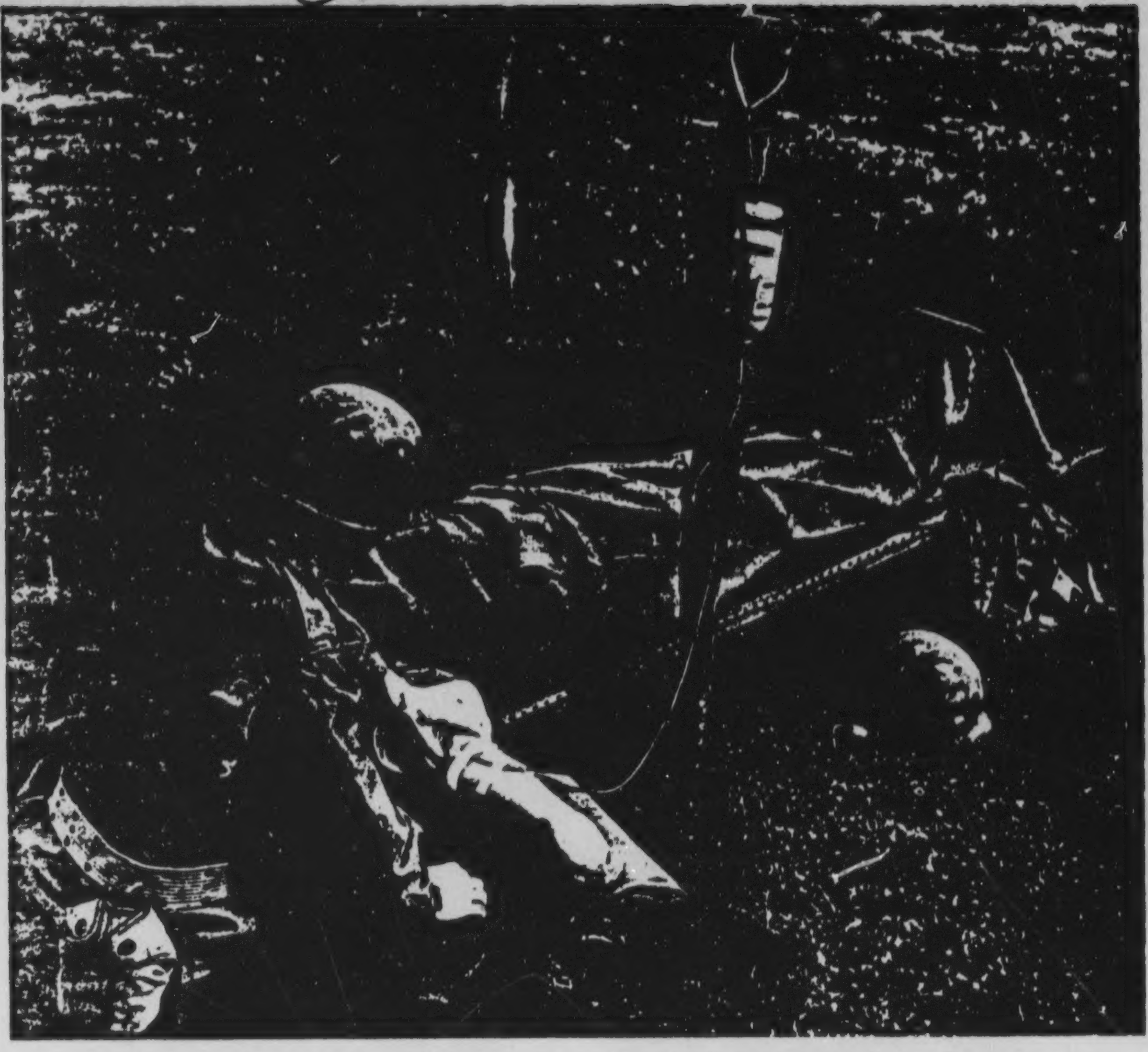

Figure 8-14. Patient in head-low position with infusion setup in place.

position is not used with patients having conditions discussed in a above nor with patients having fractures of the neck or spine. In the head-low position, the patient is on his back with his feet elevated approximately 6 inches above the level of his head. This position aids the flow of blood back to the heart and to the brain. If no litter or bed is available, the head-low position or its physiologic equivalent may be accomplished by elevating and then supporting the patient's legs with soft or padded material so that his feet are about 6 inches above the level of his head. In addition, padding may be placed under the patient's buttocks to raise them slightly above the level of the head and shoulders. Alternately, the patient may be positioned head low on a slightly inclined slope of the ground.

9. Keep the patient comfortably warm. The patient should not be allowed to become either cooled or overheated.

   a. A drop in skin temperature gives rise to constriction of the superficial blood vessels, thereby reducing the volume of the vascular system. In a cool or cold atmosphere, the patient's body and limbs should be covered with blankets. Wet clothing

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should be removed and blanket coverings tucked close to the patient's skin. Sweating should be watched for and differentiated from signs of chilling by taking the patient's temperature.

b. Elevated body temperature places stress on the cardiovascular system. As the superficial vessels dilate in an attempt to cool the blood within them, the system may become too large for the amount of blood it contains. In addition, there is an increased loss of electrolytes, particularly sodium and chloride. In a warm or hot atmosphere, padding used beneath the patient should not be made of wool. The patient should be shaded from the sun. Clothing may be left on and exposed to the atmosphere, provided that a breeze does not evaporate the perspiration in the clothing so rapidly as to chill the patient. He should also be protected against atmospheric temperature changes such as those brought on with nightfall. His temperature should be monitored, and perspiration from heat stress differentiated from signs of chilling.

8–17. Treatment of Patients in Shock

The most important single requirement in the management of shock is to arrest and reverse progressive deterioration by prompt and adequate restoration of the circulatory volume. In fluid volume restoration, an estimate of the volume lost from circulation is needed. In the emergency medical treatment situation, the estimate is based on an estimation of wound size and a judgment of signs and symptoms of shock.

a. *Wound Size.* Tissue damage in wounds (including burns) can be roughly assessed by using the hand, which has a volume of just under 500 ml., as a standard. The open hand is used to estimate surface wounds and the clenched fist to estimate wounds in depth. Estimates based on this concept are given in table 8–2. The estimate is made as the wound is being dressed, with care being taken that the wound is not further contaminated. The estimate is then marked on the patient's FMC. Table 8–2 should NOT be used in estimating tissue damage from high velocity missiles such as bullets and shell fragments unless the estimator is thoroughly familiar with the characteristics of such wounds. The area of skin damage in such wounds is deceptively small in comparison to the damage concealed beneath the skin.

Table 8-2. Wound Size Estimation.

Volumes of hand*	Size of wound
Less than 1	Small
1 to 3	Moderate
3 to 5	Large
Over 5	Very large

*One hand volume approximately 500 ml.

b. *Pattern of Shock.* Deleterious effects of injury and the system's reactions to them are continuing processes. Observations of the patient should also be a continuing process, not a single act. The patient may pass through more than one pattern of shock and change abruptly from one condition to another, even though general measures for the prevention of shock may have been successful at the time they were applied (para 5–109 and fig. 5–83.)

8–18. Replacement Fluids for Intravenous Use

In profound shock due to hemorrhage, both the red blood cells and the remaining fluid constituents of the patient's blood require augmentation.

a. *Whole Blood.* Ideally, it would seem that if blood is lost from the circulation, it should be replaced with blood. On the other hand, there is some evidence to show that an embarrassed circulation responds better at the outset to the introduction of a less viscous fluid such as plasma expander than it does to whole blood. There are also other reasons for not using blood routinely in the management of shock. One is that it is not always readily available in time of war or other disasters. A supply of stored blood introduces a number of complex problems, such as collection, storage, transportation, and maintenance of sterility, to make it not only available but safe. The collection of blood from walking wounded or from local donors, even under relatively peaceful conditions, is practical only on a small scale. Furthermore, the period of safe storage of blood at the present time is less than a month.

b. *Serum Albumin.* Albumin is a large-molecule protein normally found in human blood. It is extracted and packed in water in 100 ml. vials for infusion. It is highly effective as a blood volume substitute in emergencies, and especially when the patient has lung injury, because it tends to draw fluid into the vascular system from the surrounding tissues. One vial of albumin has about the same effect on blood volume as 500 ml. of dextran.

c. Normal Saline. Normal saline, physiologic salt solution, and isotonic saline are synonyms that refer to water containing sodium chloride in the same proportion as the body fluids. In practice, the strength of the solution is 0.9 percent. Normal saline is useful for correcting dehydration and replenishing body salt (electrolyte) losses. Since it passes out of the circulatory system very quickly, it is only transiently effective as a volume replacement fluid in shock and ordinarily is not used for that purpose. When oral fluids cannot be given by mouth, about 2,000 ml. or more of normal saline per day by the intravenous route are required to keep the patient's urine output up. This helps prevent kidney failure and uremic poisoning. Only commercially prepared saline solutions are used for infusion fluid.

d. Dextrose (Glucose). Dextrose, often 5 percent in water, is given to correct nutritional and water deficiency when the digestive system route cannt be used. Dextrose is a sweet substance that is usable readily and directly by the body tissue cells. Severely wounded patients may require dextrose in large quantities for several days. Since it passes from the circulatory system quickly, it ordinarily is not used for volume replacement; however, in the emergency medical treatment situation, dextrose, like normal saline, is better than nothing.

e. Ringer's Lactate Solution. Ringer's Lactate Solution closely resembles the electrolyte structure of normal blood serum. It is a fluid and electrolyte replenisher. It is used in almost all cases of dehydration where mild acidosis is present, in supportative treatment of trauma, and in severe diarrhea. The dosage varies with individual requirements, but, in general, 20 to 30 milliliters per kilogram of body weight is administered slowly intravenously or subcutaneously.

f. Administration of Replacement Fluids. Administration by the intravenous route is discussed in paragraph 5-61.

Section VII. ASEPSIS AND PARENTERAL MEDICATIONS

8-19. Asepsis

a. Infection.

(1) *Infectious agents.* Pathogenic (infectious) agents have the capacity to do harm. Pathogenic agents of one kind or another are present in all areas in which life exists naturally. They inhabit the air, soil, and water, also the waste products, respiratory tracts, alimentary tracts, and skins of humans and animals. Those of importance in wound infection are microscopic in size.

(2) *Contaminated wounds.* Anything that harbors pathogenic agents is contaminated. Since pathogens are considered to be universally present in nature, it follows that they enter a wound (except those made under aseptic conditions as in the operating room) immediately when it occurs and the wound is therefore contaminated.

(3) *Infected wounds.* If pathogens, having entered the body, are allowed to multiply or develop, then infection results. If undisturbed for 6 to 8 hours, a contaminated wound shows little change due to contamination. Thereafter, the infectious agents begin to multiply rapidly, invade and destroy tissue beneath the wound, and give off poisonous products or toxins. Within 24 hours after wounding (contamination), local symptoms, including redness, swelling, hardness, heat, pus, and sometimes a foul odor, indicate an infected or septic wound. Fever sometimes accompanies infection.

(4) *Septicemia.* If the infectious process cannot be localized in the wound area by the body's defenses, it spreads eventually into the general circulation, and a generalized septic condition or septicemia, characterized by chills, sweating, and recurring fever, develops which may result in toxic shock and death of the individual. Septicemia is sometimes called blood poisoning.

b. Aseptic Technique.

(1) Aseptic technique consists of those aspects of a procedure which are designed to prevent septic conditions or sepsis. With traumatic wounds, which are assumed to be contaminated beforehand, aseptic technique refers to applying a dressing in a manner so that additional contamination is not induced. In administration of preparations by injection or infusion, it refers to measures designed to prevent or minimize induction of pathogens beneath the skin. In surgery, it normally implies sterile conditions. As for general conditions in and around the patient area, aseptic

technique implies all those procedures that reduce or eliminate pathogens and their actions or minimize their areas of existence.

(2) Aseptic technique is a discipline that consists of a series of events, each of which serves to guard the patient against infection. Some of the steps in the technique may be unfeasible in the emergency treatment situation; however, each of the following essentials can and should be carried out:

(*a*) Sterile items such as dressings that are to be applied to wounds, needles, and instruments to be inserted through the skin, and syringes to be filled for injection into the body must not be allowed to touch anything unsterile before using.

(*b*) Treatment personnel must avoid breathing, coughing, or sneezing on wounds or sterile items.

(*c*) Hands of treatment personnel should be kept clean and as free from contamination as possible under the circumstances.

(*d*) Other specific precautions and safeguards detailed under various techniques are discussed in chapter 5.

c. Sterilization. The complete destruction of microorganisms, to include spores. Surgical instruments, dressings and certain other items are sterile and remain so until individual packages or seals are penetrated and contaminants are admitted. Sterilization normally is accomplished by use of heat, preferably moist. (TM 8-275 covers sterilization procedures in CM.)

d. Disinfection. Disinfection implies the destruction of all pathogenic organisms with the exception of the spore forms of certain bacteria. In the emergency medical treatment situation, the spore-forming organisms of importance are those that cause tetanus and gas gangrene. Tetanus, in the absence of preventive antitetanus inoculation, and gas gangrene are serious infections which threaten wounded patients, especially those with deep, dirty wounds in which the oxygen supply is very limited. In the emergency medical treatment situation, disinfection is often used in lieu of sterilization.

(1) *Boiling.* Under most conditions, boiling water is considered only a sanitizing agent to be used when saturated steam under pressure (autoclave) is not available. When its use is necessary, the effectiveness of boiling water may be increased by the addition of three to four teaspoons of sodium carbonate (washing soda) per quart or liter, and by the use of a tight fitting cover on the boiling container. Articles should be well cleaned before boiling, and then must be totally immersed, with surfaces opened to the solution for thirty minutes of vigorous boiling. Needles; metal cannulas; surgical instruments; glassware, including hypodermic syringers; and similar items may be boiled. Rubber goods may not be boiled. Used dressings should be destroyed, preferably by burning.

(2) *Chemical disinfectants.* Various chemical preparations are effective as disinfectants. Instruments and supplies not adversely affected by them may be disinfected by immersion in a solution of chemical disinfectants for the time specified by the label on the container, by established procedure such as that of a hospital or aid station, or by a person having knowledge of the disinfecting properties of the various chemical solutions. Chemical disinfectants in common use today include Cidex, Wescodyne, isopropyl alcohol 70 percent, and certain phenol preparations specifically designed as disinfecting solutions for inanimate objects. Materials not harmed by water will not be harmed by disinfectant solutions of these chemicals. Articles to be treated must be free of gross dirt and other matter. When disinfection time according to directions is completed, the treated articles must be flushed well with sterile normal saline before being used on the patient. Except for alcohol (isopropyl 70 percent) chemicals of disinfecting strength are not applied to the patient; to assure pathogen kill would also assure damage to the patient's tissue. Use of liquid chemical disinfection should be severely limited to those occasions when saturated steam under pressure (autoclave) is not available or when steam sterilization would damage articles so processed.

e. Use of Antiseptics and Cleaning Agents.

(1) *Antiseptics.* Antiseptics interfere with the growth and development of pathogens without necessarily destroying these agents. Antiseptics are milder than chemical disinfectants, either by nature or by strength, and may be applied directly to patients. Those which may be available in the emergency medical treatment situation include Poridone Iodine, Isopropyl alcohol 70 percent, or a prepared solution of iodine-alcohol mixture. If immediately available, an antiseptic solution may be applied around a superficial wound when hemorrhage is not severe and when surgery, if indicated, is expected to be delayed longer than 6 hours after wounding.

(*a*) When applying antiseptic around a wound, use a sterile cotton swab or sterile gauze sponge. Start at the wound edge and apply the antiseptic in a direction away from the wound. Do NOT retrace. Start with a fresh swab or sponge for each cleansing sweep of the area. Do not touch the antiseptic supply with the used swab or sponge, or with anything else unsterile.

(*b*) Do NOT put antiseptic into the wound. Do not let antiseptic run or drain into the wound. Do not remove or loosen a dressing for the purpose of applying antiseptic around the area of the wound.

(2) *Cleansing agents.* Cleansing or skin degerming agents, may include soap and water or surgical detergent preparation and water. Mixtures of soaps or skin detergents, with or without antiseptic properties, mechanically bind dirt, grime, and pathogens which are then floated away with rinse water. Since water supply may be severely limited, use of soap or skin detergents may also be limited.

(*a*) Minor cuts and abrasions containing grit or dirt may be scrubbed vigorously with liquid soap (or skin detergent), and water and patted dry with sterile gauze or cotton before dressings are applied. This procedure helps prevent or retard surface infection in patients for whom surgery is not anticipated. Gauze or cotton that has touched the patient or which is otherwise rendered unsterile should not come in contact with the soap supply.

(*b*) General cleanliness of all persons in a disaster area is essential to the preservation of health. Soap and water should be used as often and in such quantities as the state of uncleanliness demands and as the situation permits. Persons giving direct care and treatment to patients should have priority on soaps. Treatment personnel should try to avoid transporting pathogens from one patient to another. Washing hands in soap and water or rinsing hands in antiseptic will help. Hands contaminated with patient blood or other discharges, such as vomitus, mucus, perspiration, urine, and feces, should be thoroughly scrubbed before beginning treatment of the next patient.

(not included in this course)

8-20. Parenteral Medications

a. General. Parenteral medications are those that are given by some route other than through the alimentary canal. Methods of injection are covered in chapter 5.

b. Morphine Syrettes. A syrette consists of a small, collapsible metal tube fitted with an injection needle and filled with medication (fig. 8-16).

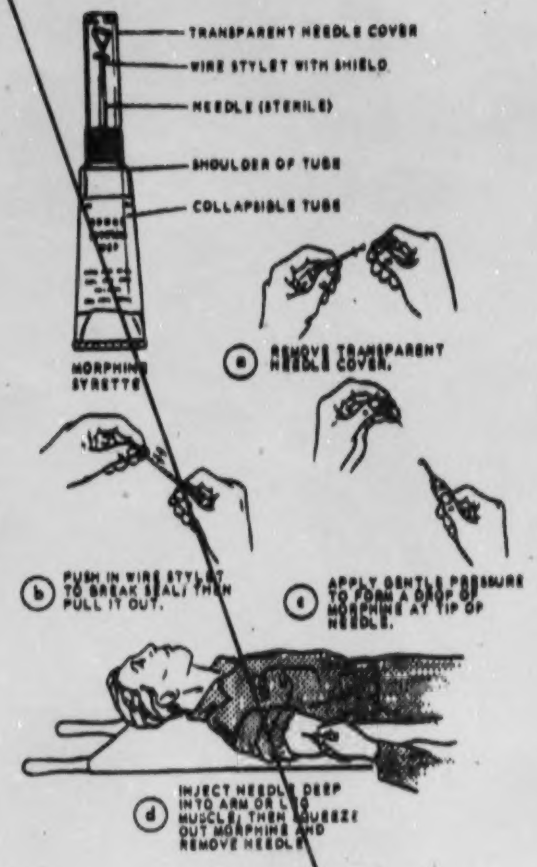

TRANSPARENT NEEDLE COVER
WIRE STYLET WITH SHIELD
NEEDLE (STERILE)
SHOULDER OF TUBE
COLLAPSIBLE TUBE
MORPHINE SYRETTE
ⓐ REMOVE TRANSPARENT NEEDLE COVER.
ⓑ PUSH IN WIRE STYLET TO BREAK SEAL; THEN PULL IT OUT.
ⓒ APPLY GENTLE PRESSURE TO FORM A DROP OF MORPHINE AT TIP OF NEEDLE.
ⓓ INJECT NEEDLE DEEP INTO ARM OR LEG MUSCLE; THEN SQUEEZE OUT MORPHINE AND REMOVE NEEDLE.

Figure 8-16. Morphine syrette.

It is designed for use in emergency situations when minimum medical supplies are available. Most morphine syrettes contain 16 mg. (one dose) of a morphine salt; however, others may contain different amounts. The morphine in syrettes is for intramuscular injection only; it is never injected directly into the bloodstream. Morphine syrettes may be issued to the combat medical soldier by the battalion aid station.

c. Indications and Contraindications for Use of Morphine. Morphine is a powerful depressor of the central nervous system, having a selective action on respiration and on pain sensation.

(1) *Indications.* In an emergency medical treatment situation, severe pain is the indicator for use of morphine. Pain can precipitate shock or increase its severity. If proper dressing, bandaging, splinting, and positioning fail to relieve severe pain, morphine should be administered at once unless contraindicated ((2) below). In order to avoid making the patient less able to look after

CHAPTER 9

ADMINISTRATION

Section I. ORGANIZATION OF THE AMEDD

9–1. Composition

The Army Medical Department consists of the following (AR 40-1):

a. The Surgeon General, a general officer of the Medical Corps, whose responsibilities are covered in AR 10-5.

b. The Deputy Surgeon General, a general officer of the Medical Corps, who assists The Surgeon General and acts for him in his absence.

c. The Assistant Surgeon General, a general officer of the Dental Corps, who assists The Surgeon General in matters pertaining to dental health service.

d. The Medical Corps, the Dental Corps, the Veterinary Corps, the Medical Service Corps, the Army Nurse Corps, and the Army Medical Specialist Corps.

e. Contract surgeons, professional consultants, warrant officers, enlisted personnel, and other personnel employed by the Army Medical Department.

f. The facilities, supplies, and equipment which are necessary to carry out its missions and functions.

9–2. Mission

The mission of the Army Medical Department is to maintain the health of the Army and to conserve its fighting strength. The department is responsible for *all* medical services provided within the Department of the Army.

9–3. Professional Qualifications

If the duties to which a member of the Army Medical Department is assigned involve professional work that is the same or is similar to that usually performed in civil life by a member of a learned profession, the Army member must possess equal or similar qualifications by education, training, or experience unless the exigencies of the situation prevent.

Section II. ORGANIZATION OF THE ARMY HOSPITAL

9–4. Organization

This section is a general resume only, as organization and terminology vary according to the class of hospital. AR 40-4 for class I hospitals and OTSG Regulation 10-2 for class II hospitals cover organization in greater depth. Figures 9-1 and 9-2 illustrate the organizational structure of class I and class II hospitals. The organization of a class I hospital, as described below, gives a general idea of the various services usually found in an Army hospital.

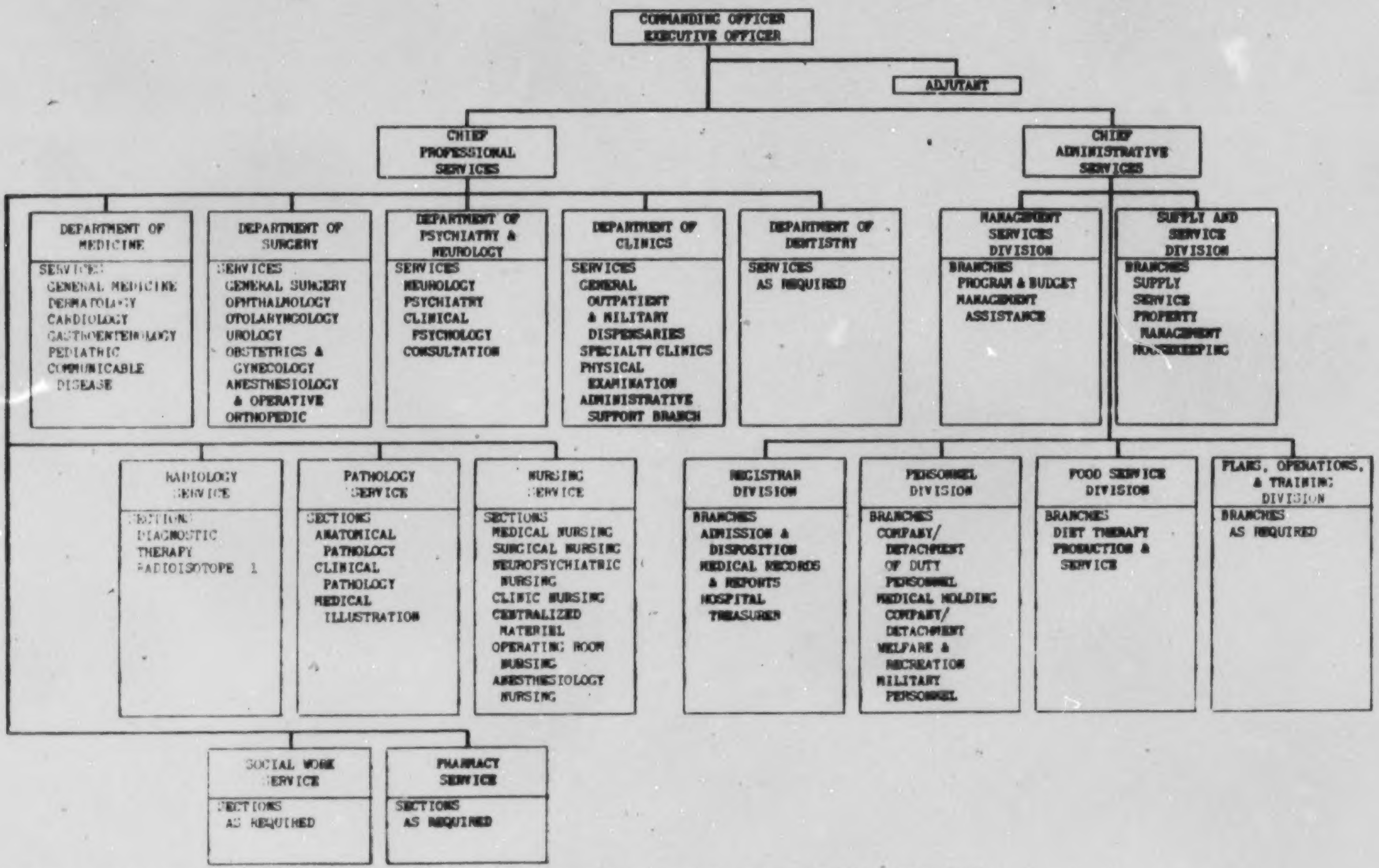
9–5. Office of the Installation Medical Department Activity Director/Hospital Commander

This office provides command policy direction and control over the Medical Department Activity (MEDDAC) program. (MEDDAC is an organizational entity established at an installation which has a U.S. Army hospital.)

a. Director/Commander. The senior Medical Corps officer assigned to the hospital. He is charged with direction of the MEDDAC program and the command, organization, and management of the hospital, as well as the other duties listed in AR 40-4.

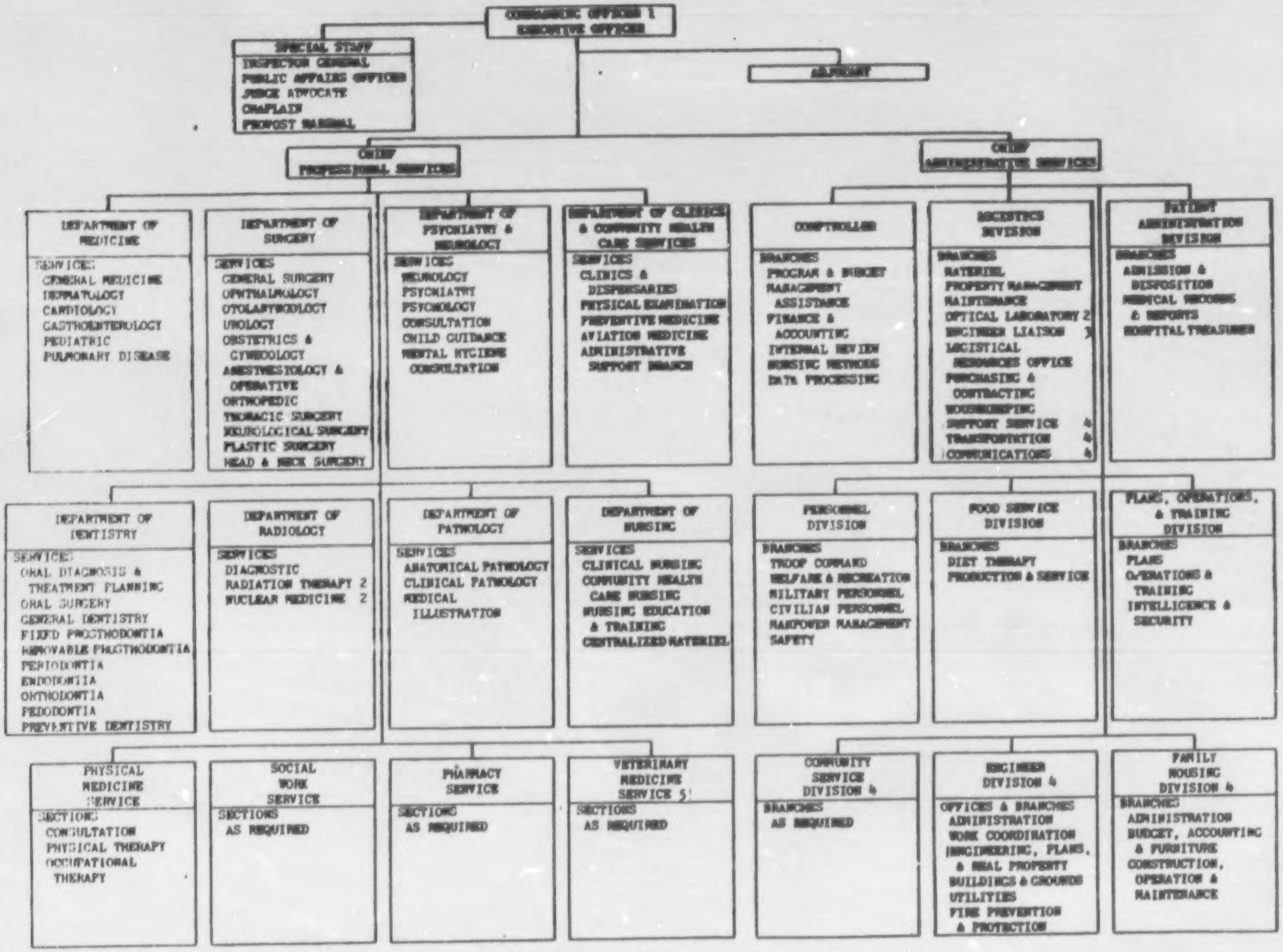
b. Executive Officer. A Medical Corps or a Medical Service Corps officer who advises and assists the Director/Hospital Commander on administrative matters. If an MSC officer, he may also serve as Chief, Administrative Service (*d* below).

c. Chief, Professional Services. A Medical Corps officer who functions as the principal advisor and assistant to the Director/Hospital Com-


COMMANDING OFFICER
EXECUTIVE OFFICER
ADJUTANT
CHIEF PROFESSIONAL SERVICES
CHIEF ADMINISTRATIVE SERVICES
DEPARTMENT OF MEDICINE
SERVICES
GENERAL MEDICINE
DERMATOLOGY
CARDIOLOGY
GASTROENTEROLOGY
PEDIATRIC
COMMUNICABLE DISEASE
DEPARTMENT OF SURGERY
SERVICES
GENERAL SURGERY
OPHTHALMOLOGY
OTOLARYNGOLOGY
UROLOGY
OBSTETRICS & GYNECOLOGY
ANESTHESIOLOGY & OPERATIVE
ORTHOPEDIC
DEPARTMENT OF PSYCHIATRY & NEUROLOGY
SERVICES
NEUROLOGY
PSYCHIATRY
CLINICAL PSYCHOLOGY
CONSULTATION
DEPARTMENT OF CLINICS
SERVICES
GENERAL OUTPATIENT & MILITARY DISPENSARIES
SPECIALTY CLINICS
PHYSICAL EXAMINATION
ADMINISTRATIVE SUPPORT BRANCH
DEPARTMENT OF DENTISTRY
SERVICES AS REQUIRED
MANAGEMENT SERVICES DIVISION
BRANCHES
PROGRAM & BUDGET
MANAGEMENT ASSISTANCE
SUPPLY AND SERVICE DIVISION
BRANCHES
SUPPLY
SERVICE
PROPERTY MANAGEMENT
HOUSEKEEPING
RADIOLOGY SERVICE
SECTIONS
DIAGNOSTIC
THERAPY
RADIOISOTOPE 1
PATHOLOGY SERVICE
SECTIONS
ANATOMICAL PATHOLOGY
CLINICAL PATHOLOGY
MEDICAL ILLUSTRATION
NURSING SERVICE
SECTIONS
MEDICAL NURSING
SURGICAL NURSING
NEUROPSYCHIATRIC NURSING
CLINIC NURSING
CENTRALIZED MATERIEL
OPERATING ROOM NURSING
ANESTHESIOLOGY NURSING
REGISTRAR DIVISION
BRANCHES
ADMISSION & DISPOSITION
MEDICAL RECORDS & REPORTS
HOSPITAL TREASURER
PERSONNEL DIVISION
BRANCHES
COMPANY/DETACHMENT OF DUTY PERSONNEL
MEDICAL HOLDING COMPANY/DETACHMENT
WELFARE & RECREATION
MILITARY PERSONNEL
FOOD SERVICE DIVISION
BRANCHES
DIET THERAPY
PRODUCTION & SERVICE
PLANS, OPERATIONS, & TRAINING DIVISION
BRANCHES
AS REQUIRED
SOCIAL WORK SERVICE
SECTIONS
AS REQUIRED
PHARMACY SERVICE
SECTIONS
AS REQUIRED

NOTE 1 — Established only when authorized by The Surgeon General and will be operated under the provisions of AR 40-37.

Figure 9-1. Organization of a class I hospital.


COMMANDING OFFICER 1
EXECUTIVE OFFICER
SPECIAL STAFF
INSPECTOR GENERAL
PUBLIC AFFAIRS OFFICER
JUDGE ADVOCATE
CHAPLAIN
PROVOST MARSHAL
ADJUTANT
CHIEF
PROFESSIONAL SERVICES
CHIEF
ADMINISTRATIVE SERVICES
DEPARTMENT OF MEDICINE
SERVICES:
GENERAL MEDICINE
DERMATOLOGY
CARDIOLOGY
GASTROENTEROLOGY
PEDIATRIC
PULMONARY DISEASE
DEPARTMENT OF SURGERY
SERVICES
GENERAL SURGERY
OPHTHALMOLOGY
OTOLARYNGOLOGY
UROLOGY
OBSTETRICS & GYNECOLOGY
ANESTHESIOLOGY & OPERATIVE
ORTHOPEDIC
THORACIC SURGERY
NEUROLOGICAL SURGERY
PLASTIC SURGERY
HEAD & NECK SURGERY
DEPARTMENT OF PSYCHIATRY & NEUROLOGY
SERVICES
NEUROLOGY
PSYCHIATRY
PSYCHOLOGY
CONSULTATION
CHILD GUIDANCE
MENTAL HYGIENE CONSULTATION
DEPARTMENT OF CLINICS & COMMUNITY HEALTH CARE SERVICES
SERVICES
CLINICS & DISPENSARIES
PHYSICAL EXAMINATION
PREVENTIVE MEDICINE
AVIATION MEDICINE
ADMINISTRATIVE SUPPORT BRANCH
COMPTROLLER
BRANCHES
PROGRAM & BUDGET
MANAGEMENT ASSISTANCE
FINANCE & ACCOUNTING
INTERNAL REVIEW
NURSING METHODS
DATA PROCESSING
LOGISTICS DIVISION
BRANCHES
MATERIEL
PROPERTY MANAGEMENT
MAINTENANCE
OPTICAL LABORATORY 2
ENGINEER LIAISON 3
LOGISTICAL RESOURCES OFFICE
PURCHASING & CONTRACTING
HOUSEKEEPING
SUPPORT SERVICE 4
TRANSPORTATION 4
COMMUNICATIONS 4
PATIENT ADMINISTRATION DIVISION
BRANCHES
ADMISSION & DISPOSITION
MEDICAL RECORDS & REPORTS
HOSPITAL TREASURER
DEPARTMENT OF DENTISTRY
SERVICES:
ORAL DIAGNOSIS & TREATMENT PLANNING
ORAL SURGERY
GENERAL DENTISTRY
FIXED PROSTHODONTIA
REMOVABLE PROSTHODONTIA
PERIODONTIA
ENDODONTIA
ORTHODONTIA
PEDODONTIA
PREVENTIVE DENTISTRY
DEPARTMENT OF RADIOLOGY
SERVICES
DIAGNOSTIC
RADIATION THERAPY 2
NUCLEAR MEDICINE 2
DEPARTMENT OF PATHOLOGY
SERVICES
ANATOMICAL PATHOLOGY
CLINICAL PATHOLOGY
MEDICAL ILLUSTRATION
DEPARTMENT OF NURSING
SERVICES
CLINICAL NURSING
COMMUNITY HEALTH CARE NURSING
NURSING EDUCATION & TRAINING
CENTRALIZED MATERIEL
PERSONNEL DIVISION
BRANCHES
TROOP COMMAND
WELFARE & RECREATION
MILITARY PERSONNEL
CIVILIAN PERSONNEL
MANPOWER MANAGEMENT
SAFETY
FOOD SERVICE DIVISION
BRANCHES
DIET THERAPY
PRODUCTION & SERVICE
PLANS, OPERATIONS, & TRAINING DIVISION
BRANCHES
PLANS
OPERATIONS & TRAINING
INTELLIGENCE & SECURITY
PHYSICAL MEDICINE SERVICE
SECTIONS:
CONSULTATION
PHYSICAL THERAPY
OCCUPATIONAL THERAPY
SOCIAL WORK SERVICE
SECTIONS
AS REQUIRED
PHARMACY SERVICE
SECTIONS
AS REQUIRED
VETERINARY MEDICINE SERVICE 5
SECTIONS
AS REQUIRED
COMMUNITY SERVICE DIVISION 4
BRANCHES
AS REQUIRED
ENGINEER DIVISION 4
OFFICES & BRANCHES
ADMINISTRATION
WORK COORDINATION
ENGINEERING, PLANS, & REAL PROPERTY
BUILDINGS & GROUNDS
UTILITIES
FIRE PREVENTION & PROTECTION
FAMILY HOUSING DIVISION 4
BRANCHES
ADMINISTRATION
BUDGET, ACCOUNTING & FURNITURE
CONSTRUCTION, OPERATION & MAINTENANCE

NOTE 1 — When hospital provides medical support to a class II installation, the hospital commander will be the surgeon.
NOTE 2 — Established only when authorized by The Surgeon General.
NOTE 3 — Established only when hospital is an activity located on a class I installation which provides engineer support.
NOTE 4 — Elements included in the hospital organization when hospital functions as installation headquarters.
NOTE 5 — Established only when hospital has mission to provide veterinary service.

Figure 9-2. Organization of a class II hospital.

mander on professional matters and as coordinator of the professional elements of the MEDDAC. He directs and supervises the professional departments and separate professional services of the hospital.

d. Chief, Administrative Services. A Medical Service Corps officer who is responsible for supervising and coordinating administration reports of the MEDDAC. He also plans and coordinates the administrative elements of the hospital.

e. Adjutant. A Medical Service Corps officer responsible for accomplishing administrative duties assigned by the Executive Officer and providing office services and other related administrative support for the hospital.

9-6. Departments

a. Department of Medicine. Provides diagnostic service, care, and treatment to all patients assigned or referred to it. Includes the Chief, Department of Medicine, who is a Medical Corps officer; General Medicine Service; Dermatology Service; Cardiology Service; Gastroenterology Service; Pediatric Service; and Communicable Disease Service.

b. Department of Surgery. Provides diagnostic service, care, and treatment to all patients assigned or referred to it. Includes Chief, Department of Surgery, who is a Medical Corps officer; General Surgery Service; Ophthalmology Service; Otolaryngology Service; Urology Service; Obstetrics and Gynecology Service; Anesthesiology and Operative Service; and Orthopedic Service.

c. Department of Psychiatry and Neurology. Provides diagnostic service, consultation, care, and treatment for all patients assigned or referred to it. Includes Chief, Department of Psychiatry and Neurology, who is a Medical Corps officer; Neurology Service; Psychiatry Service; Clinical Psychology Service; and Consultation Service.

d. Department of Clinics. Provides or arranges for the examination and treatment of patients requiring clinic care. Includes Chief, Department of Clinics, who is a Medical Corps officer; General Outpatient and Military Dispensary Service; Specialty Clinics; Physical Examination Service; and Administrative Support Branch.

e. Department of Dentistry. Provides dental care and treatment for both inpatients and outpatients and for personnel assigned to the hospital. Also coordinates, as required, with installation Dental Activities in residency, intern, and other training missions. Directed by the Chief, Department of Dentistry, who is a Dental Corps officer.

9-7. Services

a. Radiology Service. Provides diagnostic and therapeutic radiological services as required in the examination, care, and treatment of patients. Includes Chief, Radiology Service, who is a Medical Corps officer; Diagnostic Section; Therapy Section; and Radioisotope Section.

b. Pathology Service. Provides complete laboratory service for the hospital. Includes Chief, Pathology Service, who is a Medical Corps officer; Anatomical Pathology Section; Clinical Pathology Section; and Medical Illustration Section.

c. Nursing Service. Provides safe nursing care in accordance with the policies and procedures prescribed by the hospital commander. Includes Chief, Nursing Service, who is an Army Nurse Corps officer; Medical Nursing Section; Surgical Nursing Section; Neuropsychiatric Nursing Section; Clinic Nursing Section; Centralized Materiel Section; Operating Room Nursing Section; and Anesthesiology Nursing Section.

d. Social Work Service. Provides professional social work services to patients and their families. Includes Chief, Social Work Service, who is a Medical Service Corps officer, and sections as required.

e. Pharmacy Service. Provides for accomplishments of those functions prescribed for pharmacies in AR 40-2 and AR 40-4. The Chief of the Pharmacy Service is a Medical Service Corps officer, MOS 3318, or if no officer with MOS 3318 is on duty at the hospital, a Medical Corps officer is designated at Pharmacy Officer. The service is divided into sections as required.

9-8. Divisions Under Administrative Services

a. Management Services Division. Provides such services as budgeting, accounting, management engineering, and progress and statistical reporting and analysis (except those medical statistics which are the responsibility of the Registrar). Includes a Management Services Officer, who is a Medical Service Corps officer; Program and Budget Branch; and Management Assistance Branch.

b. Supply and Service Division. Provides for computation of requiremens and the acquisition, storage, and distribution of supplies and equipment to meet the needs of the hospital, as well as maintenance and repair of equipment and logistical services. Includes Chief, Supply and Service Division, who is a Medical Service Corps officer; Supply Branch; Service Branch; Property Management Branch; and Housekeeping Branch.

c. Registrar Division. Provides patient administration services for the hospital and acts as custodian of all medical and clinical records of inpatients and outpatients, to include administrative admitting and discharging of patients and medical data. Includes the Registrar, who is a Medical Service Corps officer; Admission and Disposition Branch; Medical Records and Report Branch; and Hospital Treasurer Branch.

d. Personnel Division. Provides for administration of military duty personnel matters and coordination of civilian personnel matters; staff supervision of enlisted duty and medical holding companies and detachments; and personnel management, administration, and record keeping. Includes Chief, Personnel Division, who is a Medical Service Corps officer; Companies/Detachments of Duty Personnel; Medical Holding Company/Detachment; Welfare and Recreation Branch; and Military Personnel Branch.

e. Food Service Division. Prepares and serves palatable and nutritionally adequate diets within established monetary limitations for patients and other authorized personnel. Includes Chief, Food Service Division, who is an Army Medical Specialist Corps officer (dietitian); Diet Therapy Branch; and Production and Service Branch.

f. Plans, Operations, and Training Division. Prepares peacetime, emergency, and mobilization plans; plans and coordinates assigned training programs; and assists other elements of the MEDDAC in developing and providing medical service support to installations. Directed by the Chief, Medical Plans, Operations, and Training Division, who is a Medical Service Corps officer.

Section III. ORGANIZATION OF NURSING IN ARMY HOSPITALS

9–9. Organization of Nursing in Class I Hospitals

The nursing service in class I hospitals (fig. 9–3) is organized as follows:

a. Office of the Chief Nurse, which includes the Chief, Nursing Service; Assistant Chiefs for Day, Evening, and Night; and the Educational Coordinator.

b. Clinical nursing sections, which may include—

(1) Medical Nursing Section.
(2) Surgical Nursing Section.
(3) Neuropsychiatric Nursing Section.
(4) Clinic Nursing Section.
(5) Centralized Material Nursing Section.
(6) Operating Room Nursing Section.
(7) Anesthesiology Nursing Section.

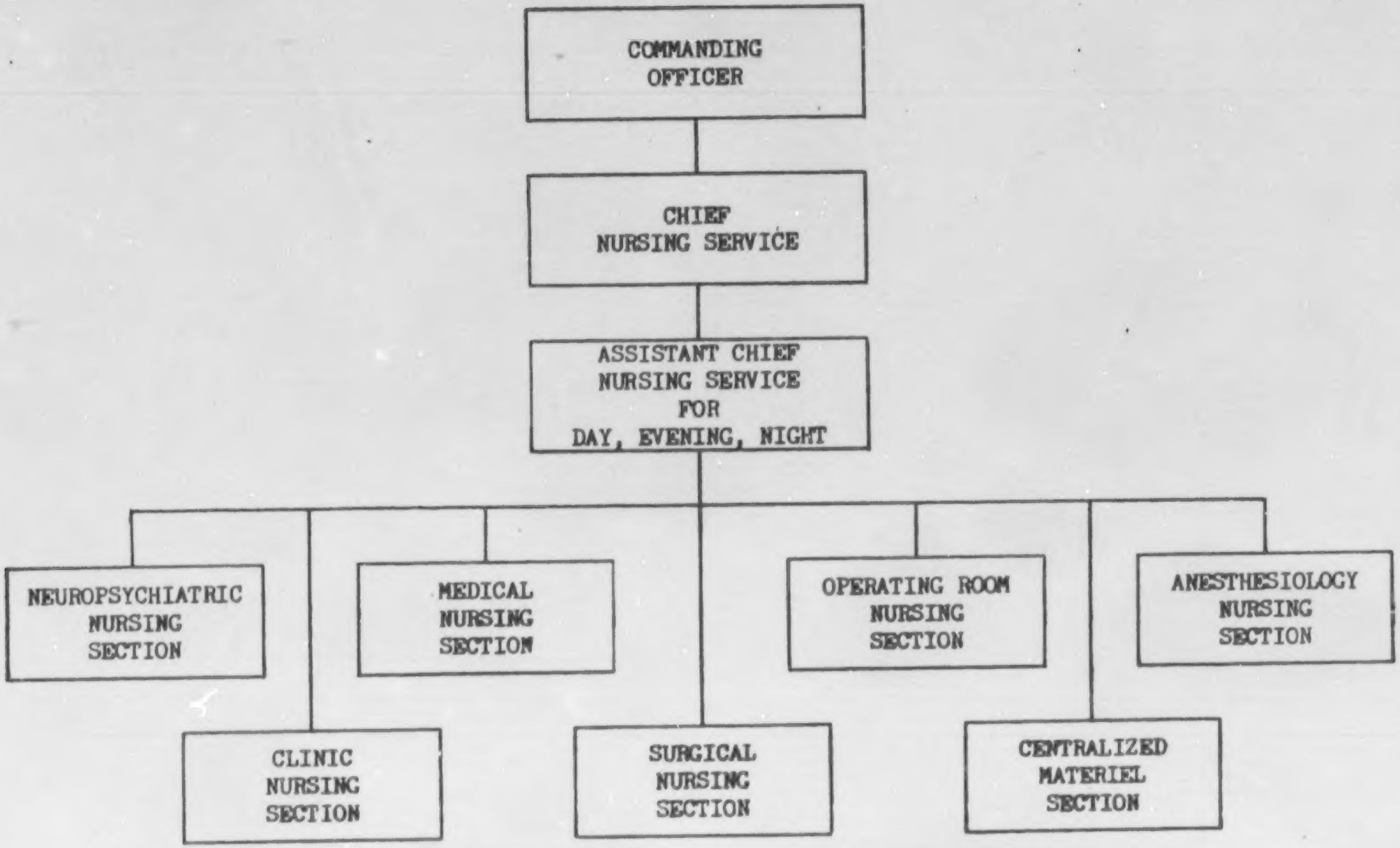
c. Clinical units, which are under the supervision of the chiefs of the several clinical nursing sections and are managed by a clinical head nurse. Clinical staff nurses on each of the clinical units are responsible to the clinical head nurse for performing duties as either a nursing team leader or a member of the nursing care team.

9–10. Organization of Nursing in Class II Hospitals

a. Nursing in class II hospitals (fig. 9–4) is organized as a Department of Nursing with a Nurse Administrator of the Army Nurse Corps as Chief, Department of Nursing. The Office of the Chief, Department of Nursing, also includes Assistant Chiefs, Department of Nursing, for Day, Evening, and Night.

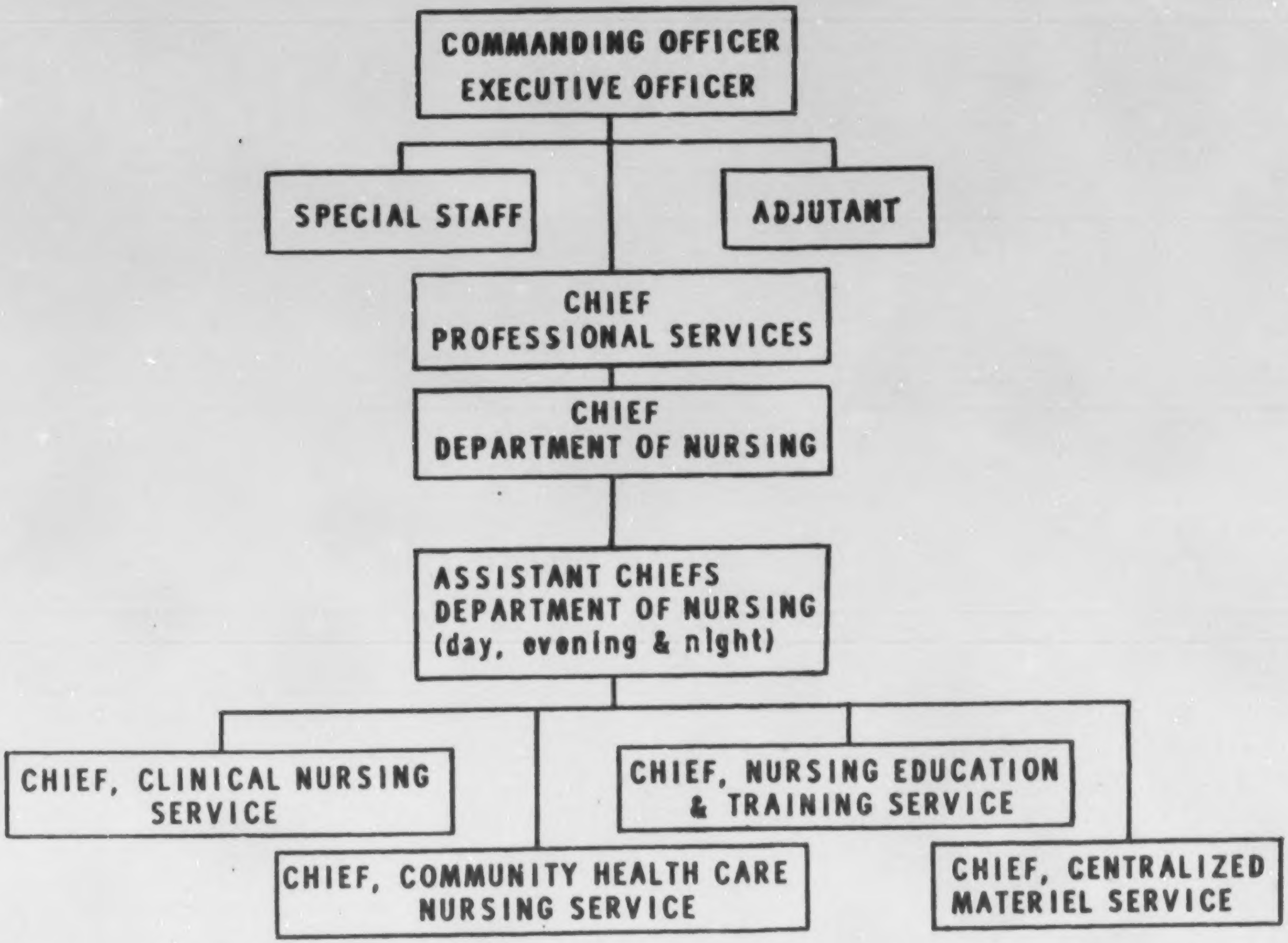
b. There are four services within the Department of Nursing, as follows:

(1) Clinical Nursing Service, including—
  (*a*) Medical Nursing Section.
  (*b*) Surgical Nursing Section.
  (*c*) Psychiatry and Neurology Nursing Section.
  (*d*) Maternal and Child Health Nursing Section, to include obstetrical, pediatric, and nursery subsections.
  (*e*) Operating Room Nursing Section.
  (*f*) Anesthesiology Nursing Section, to include inhalation therapy subsection.
(2) Community Health Care Nursing Service, including—
  (*a*) Clinics Nursing Section.
  (*b*) Dispensaries Nursing Section.
(3) Nursing Education and Training Service, including—


COMMANDING OFFICER
CHIEF NURSING SERVICE
ASSISTANT CHIEF NURSING SERVICE FOR DAY, EVENING, NIGHT
NEUROPSYCHIATRIC NURSING SECTION
MEDICAL NURSING SECTION
OPERATING ROOM NURSING SECTION
ANESTHESIOLOGY NURSING SECTION
CLINIC NURSING SECTION
SURGICAL NURSING SECTION
CENTRALIZED MATERIEL SECTION

Nursing Service
United States Army Hospitals
(Class I)

Figure 9–3 Organization of nursing, class I hospital.


COMMANDING OFFICER
EXECUTIVE OFFICER
SPECIAL STAFF
ADJUTANT
CHIEF
PROFESSIONAL SERVICES
CHIEF
DEPARTMENT OF NURSING
ASSISTANT CHIEFS
DEPARTMENT OF NURSING
(day, evening & night)
CHIEF, CLINICAL NURSING SERVICE
CHIEF, NURSING EDUCATION & TRAINING SERVICE
CHIEF, COMMUNITY HEALTH CARE NURSING SERVICE
CHIEF, CENTRALIZED MATERIEL SERVICE

Department of Nursing
U.S. Army General Hospitals
(Class II)

Figure 9-4. Organization of nursing, class II hospitals.

1380

(*a*) Nursing Inservice Education and Training Section.

(*b*) Nursing Speciality Education and Training Section.

(4) Centralized Material Service.

c. Below the subsection level, nursing in the class II hospital is organized in the same fashion as in a class I hospital.

Section IV. ORIENTATION

9-11. General

a. Good orientation is good economy. The better the program, the faster the economy of time and effort expended to hasten productivity. Good orientation includes knowing the name of the newcomer (the rules of good etiquette and courtesy are as important in a patient care area as in any social situation). To be called correctly by one's own name is a part of the welcoming procedure and increases the worker's sense of belonging.

b. Appraisal of the orientation program should be carried out by all patient care personnel—those who orient and those who receive it. Both view the program and its outcome from different vantage points. Appraisal should include immediate and long-term results. Varied time intervals are essential for comprehensive and reliable data. Many things that seem unimportant in the initial orientation period grow in significance after a specialist has been on the job. Continuing appraisals and individual ratings give a system of checks and balances that enable the staff to support needed revisions intelligently.

9-12. Value of Orientation

Orientation ushers a new specialist into his work setting, instills a sense of security and belonging, results in better job performance, and increases job satisfaction.

9-13. Administrative Decisions About Orientation

a. The kind of orientation program needed by patient care personnel is determined by many elements in the situation, but it must be planned and not a hit-or-miss proposition. No two programs will be the same; however, there should be coordination between all segments of the patient care facility in orientation practices in order to avoid duplication.

b. Decisions on orientation cover a wide range of subjects, to include—

(1) *Time required*. No one can specify the exact length of time for orientation. People vary greatly in their ability to grasp new material, to understand or accept new roles, and to adjust to a new setting. Each specialist must be allowed to adjust at his own speed.

(2) *Responsibility for orientation*. This depends upon the situation. One individual should have the responsibility for the total program; however, different people may accomplish different parts. The Chief, Nursing Education and Training Service/Educational Coordinator, normally has the overall responsibility for the program. The chief of the nursing section where the specialist is to be assigned may orient him to the institution; on the other hand, the clinical head nurse or coordinator occupies the best position to initiate and continue orientation to the job.

(3) Timing of activities.

(4) Criteria for readiness for full duty.

(5) Followup procedures.

(6) Revision of orientation practices.

9-14. Basic Components of Orientation

The basic components of orientation include orientation of the—

- Individual to the institution.
- Administration to the new worker.
- Individual to other personnel.
- Individual to his unit and responsibilities of his job.

9-15. Approaches to Orientation Planning

Hospitals and other patient care facilities will have different approaches to orientation. Some will use the "buddy" system or rotating assignments; others will have an orientation unit or an initial assignment program. Still others will have a plan involving free observation and participation. The initial orientation program sets the stage for the association between the hospital and specialist and determines the relationship that will exist. *For example*, a rotating assignment is one way to familiarize a specialist to the whole nursing service, but it involves some disadvantages; rotating makes it hard for him to put down

TO BE ACCOMPLISHED BY OFFICE OF THE CHIEF NURSE	TO BE ACCOMPLISHED BY UNIT	
I. Organization a. Mission of organization b. Role of employee's position in accomplishing mission c. Chain of command II. Employee's Position a. Duties and responsibilities b. Standard of performance expected c. Intro. to supervisory staff d. Alert assignment III. Working Conditions a. Area of work b. Hours of work c. Rest period - restrooms d. First aid facilities IV. Specific Rules of Hospital a. How to request leave b. How to report injuries and accidents c. Hospital regulations 1. Safety 2. Fire 3. Security V. Security Regulations a. Other rules b. How to report injuries and accidents VI. Location of a. Eating facilities b. Bulletin board c. Medical facilities d. Banking facilities e. PX and commissary f. NCO and EM club g. Billeting office	I. Physical Layout a. Purpose of each area b. Responsibility for maintenance II. Personnel a. Introduction to all personnel on unit b. Duties of each category of worker 1. Registered nurse 2. Clinical specialist 3. Wardmaster 4. Medical specialist 5. Medical corpsman 6. Civilian worker III. Patient Administration a. Ward procedure manual b. Clinical record 1. Composition; responsibilities 2. Nursing book unit 3. Nursing notes, doctor's orders, nursing care plans 4. Admission, transfer, and discharge procedures 5. Disposition c. Request slips, lab, X-rays, consultations 1. How initiated; use of name plate 2. Forwarding 3. Recording 4. Filing d. Clinic appointments e. Food service 1. Ward service and nourishments 2. Mess hall f. Procedure for placing on and removing from seriously ill and very seriously ill list	IV. Ward Administration a. Requisitioning procedures 1. CMS 2. Pharmacy 3. Laundry 4. Work and repair orders b. Assignment of personnel 1. Ward duties 2. Nursing care assignment 3. Time schedule V. Medications a. Narcotics 1. Narcotic registry 2. Ordering and safeguarding of narcotics 3. Narcotic count 4. Recording b. Pharmacy 1. Metric system 2. Familiarization with formulary VI. Miscellaneous a. Red Cross 1. Social service 2. Ward supplies 3. Ward recreation b. Status of patients 1. Rules of conduct 2. Leaves and passes c. Ward library d. Emergency plans 1. Fire 2. Disaster

Figure 9–5. Sample orientation, nursing service.

roots and may cause a feeling of insecurity. A more profitable approach might be to leave him in his initial assignment until he begins to feel at home before starting to rotate his assignments.

9-16. Orientation of the Specialist to His Work Environment

a. This is the level at which a well-planned and well-conducted program on other levels can be wrecked or strengthened. The thoroughness and effectiveness of this aspect of orientation will be felt throughout the period of assignment. The specialist's supervisor will also profit in time saved in supervision, correction of errors, and counseling relative to work relationships if this phase is adequate.

b. Knowledge of the physical environment is essential to the job because within this setting the specialist finds the tools and resources to accomplish his job. The nurse in charge will ordinarily introduce the new specialist to the patients and personnel in his unit. The specialist's immediate supervisor should orient the new specialist to his work role—his place in the formal organization (fig. 9-5). This should be defined in terms of standards (expectations) of the job, accountability for what and to whom, supervision on the job, opportunity for advancement, educational functions, and the specialist's scope of responsibilities.

NOTE

> The responsibility for this phase of the orientation program may be assigned to the wardmaster.

A new specialist has the right to expect to have time to adjust to new work situations, assistance in finding out where he is and what he is to do, and then assistance in meeting the standards of performance required.

c. Becoming acquainted with the informal organization of the work setting requires a great deal more time than the formal. The new specialist is aware that he must find his place. Unless he becomes a part of the informal organization, he will not function to his maximum effectiveness.

d. Interpretation of policies, regulations, and procedures is also a long-term process, even though some brief familiarization should be included in the initial orientation. High priority in these matters should be given to those that insure the patient's safety and welfare. *For example,* newcomers should know the fire regulations, procedure for evacuation of patients, and location of emergency setups such as oxygen and drugs.

9-17. Evaluation of Orientation

This should be an integral part of the program. The persons who have the most responsibility for planning and conducting the orientation should also plan for a continuous feedback during the early weeks in order to appraise the program in terms of fulfilling the goals that were set. Effectiveness can be measured later by whether it met the immediate concerns of the new specialist and whether it prevented fear and insecurity. It can also be rated by his readiness in assuming his duties and in meeting the standards of his job. The following are some indications of a need for revision or expansion of orientation practices:

- Failure of specialist to function well and to adjust to the new environment with ease.
- Failure of patients to accept new specialist.
- Insecurity shown by specialist (e.g., failure to seek guidance).

Section V. TRAINING

9-18. General

a. MOS 91A, Medical Corpsman. After graduation from the U.S. Army Medical Training Center with a 91A MOS, the corpsman should have a planned, supervised clinical experience in order to be able to gain skill in applying the procedures taught in the classroom to the actual care of the patient. As the individual with MOS 91A gains skills in his level of work through further clinical experience in advanced procedures and patient care, he may attain an MOS 91B.

b. MOS 91B, Medical Specialist. This specialist's training must be at an advanced level which is gained through on-the-job training.

c. MOS 91C, Clinical Specialist. MOS 91C training is conducted in schools specifically for that purpose. The instructors in the Clinical Specialist Course teach in the didactic area and supervise the students in the clinical area.

d. Details. AR 611-20 gives details of duties and responsibility for MOS 91A, 91B, and 91C.

TRAINING SCHEDULE
BOOKER GENERAL HOSPITAL
Fort General, Texas 78123

WARD TRAINING Subject	Day and Date	(DIDACTIC TRAINING-10C CLASSROOM) Time	Subject	References
1st Week	Monday, 7 Jan Tuesday, 8 Jan Wednesday, 9 Jan Thursday, 10 Jan		Report in, Records Orientation, TI&E Review of 91A Procedures	
2d Week Assisting with Sterile Procedure	Thursday, 17 Jan	1300-1445 1500-1600	Introduction to Anatomy Anatomy of Musculo-Skeletal system Intake & Output Records	TM 8-230, or any anatomy and phys. text
3d Week Isolation Technique	Thursday, 24 Jan	1300-1445 1500-1600	Conditions of the Musculo-Skeletal system. Casts and Traction	TM 8-230, or surgical or orthopedic nursing textbook
4th Week Injection Technique	Thursday, 31 Jan	1300-1350 1400-1450 1500-1600	Anatomy of Circulatory Sys. Conditions of Circulatory Sys. Oxygen Therapy	TM 8-230, or any anatomy and phys. text, and medical nursing text
5th Week IV Therapy	Thursday, 7 Feb	1300-1350 1400-1450 1500-1600	The Blood and the Lymph Conditions of Circ. Sys.,Shock Sterile Dressings	TM 8-230, or any anatomy and phy. text and any medical text
6th Week Prep for Diagnostic Procedures Chest Drainage	Thursday, 14 Feb	1300-1350 1400-1450 1500-1600	Anatomy of Respiratory Sys. Condition of Respiratory Sys. Respiratory Procedures	TM 8-230, or any anatomy and phys. text or any medical text
7th Week Immunizations	Thursday, 21 Feb	1300-1350 1400-1450 1500-1600	Anatomy of Digestive Sys. Condit. of Digestive Sys. Suction Siphonage	TM 8-230, or any anatomy and phys. text; surgical nurse text

Figure 9-6. Sample formal training schedule.

NURSING SERVICE
BOOKER GENERAL HOSPITAL
Fort General, Texas 78123

SUBJECT: Class schedule for first week for OJT training

FIRST DAY
1. Sign in detachment
2. Report to Ward 10-G
3. Order name tags
4. Draw bedding, whites; turn in weapons
5. Put field gear away; set up housekeeping in quarters

SECOND DAY
1. Orientation to the hospital (other than Wd personnel taken to duty station)
2. Proficiency training orientation
   a. First SGT
   b. Field First SGT
   c. Chief Wardmaster, Nursing Service
3. Review of hospital routine, duties, 3 duty shifts

PM SECOND DAY
4. Bed making
5. Bed bath
6. Oral care
7. Back care

WARD 2-A DEMONSTRATION

THIRD DAY
1. T.P.R. and B/P (Demonstration and return)
2. Admission of patients to the ward

PM THIRD DAY
3. Cleansing enema
4. Collection of specimens
5. Diagnostic test, examinations, collections of specimens

FOURTH DAY
1. Role of the Medical Specialist
2. Intake and output
3. IM injections (Demonstration and return)

PM FOURTH DAY
4. Review OJT folders
5. Introduction of the Wardmasters
6. Tour of assigned Sections

FIFTH Day -- Start work in Duty Sections (make up classes as needed)

Figure 9-7. Sample OJT training schedule.

9-19. Responsibility for Training

a. The overall training program for hospital personnel is the responsibility of the Chief, Plans, Operations, and Training Division. The training program, as it pertains to the nursing portion of the primary patient care of MOS's 91A and 91B, is delegated to the Chief, Department of Nursing/Service. This responsibility is further delegated to the Chief, Nursing Education and Training Service/Educational Coordinator, in the case of an operating medical treatment facility, or to the training nurse for a nonoperating facility in a training status. Figures 9-6 and 9-7 illustrate the type of training that may occur.

b. The hospital in a training status, whether Stateside or overseas, will have a requirement for training in MOS 91A and B. As these hospitals do not have any patients, the training nurse of the hospital must seek patient care experience in operating hospitals for these personnel. The supervision of the students will be accomplished either by the staff of the Chief, Nursing Education and Training Service/Educational Coordinator, or by the training nurse.

c. In addition to the trainee in *b* above, the Chief, Nursing Education and Training Service/Educational Coordinator, has a training program for his own assigned 91A and 91B personnel.

d. In combat areas, training programs may be developed for assigned personnel, personnel assigned to nonmedical units, or enlisted personnel of allied forces.

e. In oversea areas other than combat, training programs may be provided for foreign national ancillary personnel such as foreign-hire nurse's aides.

Section VI. ADMINISTRATIVE PROCEDURES FOR NURSING PERSONNEL

9-20. Utilization of Personnel on the Ward

Good ward administration includes proper utilization of duty personnel assigned to the ward. It insures a systematic distribution of personnel so that the ward unit has a 24-hour coverage, and it distributes the workload fairly according to the various levels of skills and knowledge of the members of the patient care team.

9-21. The End-of-Shift or Exchange Report

a. A report is made by personnel (usually the nurse in charge) going off duty to those coming on duty. The report is an oral one and is made to all personnel coming on duty. It covers operation of the ward and condition of the patients, to include any observations or problems. Following this report, assignments are given to incoming personnel.

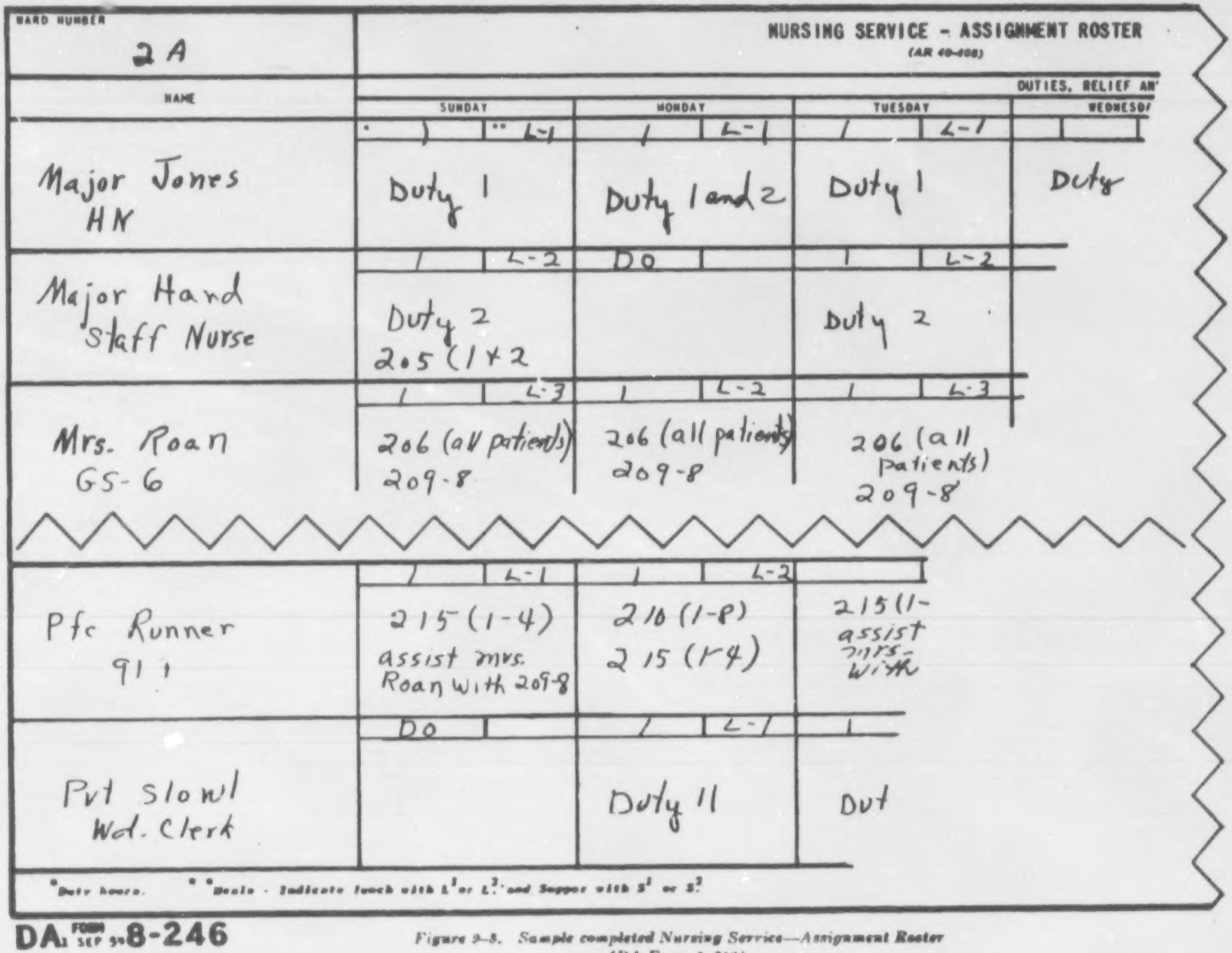
b. Three forms are used for assignments: DA Forms 8-246, 8-250, and 8-256. Use of these forms are encouraged since they assist in providing good nursing service administration. Penciled entries may be used on all three.

9-22. Nursing Service—Assignment Roster

DA Form 8-246 (Nursing Service—Assignment Roster) is used to make consolidated assignments on housekeeping and patient care. It also includes meal hours, classes, military duties, and ward management tasks. The form (fig. 9-8) is made out in pencil or covered with acetate or some other see-through material in order to facilitate changes which might be made during the week. Routine ward duties and administrative tasks are grouped so that each person on a tour of duty knows the recurring activities for which he is responsible. Duties are assigned by duty numbers such as duty 1 or duty 2. A master list of these ward duties should be posted on the ward bulletin board (fig. 9-9 shows a sample of one type of master list). These duties may also be posted on 5 x 8-inch cards in the Nursing Book Unit.

9-23. Nursing Care Assignment

DA Form 8-256 (Nursing Care Assignment) is prepared daily by the head nurse or charge nurse and is distributed at the time of the Exchange Report. It is used to give a daily written assignment of the nursing care for which each nursing member is responsible (fig. 9-10). It provides a method of assigning patients to the various levels of nursing personnel according to the proficiency of the personnel in caring for the nursing needs of the individual patient. If a Nursing Care Plan has been developed, the assignment may say "See Nursing Care Plan" or "See Care Plan Card." The specialist will carry out the assignment as listed. Nursing Service personnel can note observations or treatment of a patient's condition, his



WARD NUMBER 2A

NURSING SERVICE - ASSIGNMENT ROSTER
(AR 40-408)

DUTIES, RELIEF AN

NAME	SUNDAY		MONDAY		TUESDAY		WEDNESD	
	*	**						
	1	L-1	1	L-1	1	L-1		
Major Jones HN	Duty 1		Duty 1 and 2		Duty 1		Duty	
	1	L-2	DO		1	L-2		
Major Hand Staff Nurse	Duty 2 205 (1 + 2				Duty 2			
	1	L-3	1	L-2	1	L-3		
Mrs. Roan GS-6	206 (all patients) 209-8		206 (all patients) 209-8		206 (all patients) 209-8			
	1	L-1	1	L-2				
Pfc Runner 91 t	215 (1-4) assist mrs. Roan with 209-8		210 (1-8) 215 (1-4)		215 (1- assist mrs. with			
	DO		1	L-1	1			
Pvt Slow Wd. Clerk			Duty 11		Dut			

*Duty hours. **Meals - Indicate lunch with L^1 or L^2 and Supper with S^1 or S^2

DA FORM 1 SEP 59 8-246

Figure 9-8. Sample completed Nursing Service—Assignment Roster (DA Form 8-246).

1387

Duties of Wardmaster, 91C40 -- 0700-1500 Duty No. 7

1. Patient care as assigned.
2. Supervision and teaching of enlisted personnel.
3. Responsible for ward housekeeping.
4. Responsible for supply levels -- quartermaster item and medical items -- linen.
5. Coordinate all EM activities and company duties with head nurse.
6. Check emergency tray daily.
7. Attend wardmaster meeting weekly.

Duties of Clinical Specialist, 91C20 -- 0700-1500 Duty No. 8

1. Patient care as assigned.
2. Assist with medications and treatments.
3. Check isolation equipment (setup and supplies) daily.

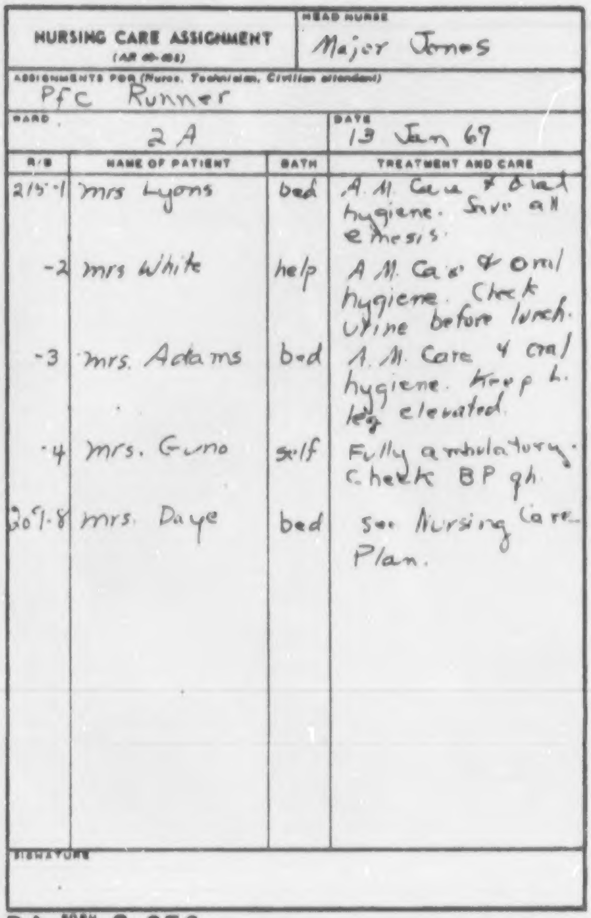
Duties of Medical Specialist, 91B20 -- 0700-1500 Duty No. 9

1. Patient care as assigned.
2. Serve diet trays, feed patients.
3. Check and resupply treatment and emergency equipment room at end of shift.
4. TPR and blood pressure 1200.
5. Pass nourishments.

Duties of Medical Corpsman, 91A10 -- 0700-1500 Duty No. 10

1. Patient care as assigned.
2. Pass out linen Mon - Wed - Fri.
3. Assist wardmaster in daily linen requisition.
4. Empty waste basket 1000 and 1500.
5. Escort service.
6. Fresh water to all patients 1000 and 1500.

Figure 9-9. Sample page from master list of ward duties.



NURSING CARE ASSIGNMENT
(AR [illegible])

HEAD NURSE: Major Jones

ASSIGNMENTS FOR (Nurse, Technician, Civilian attendant): PFC Runner

WARD: 2 A

DATE: 13 Jan 67

R/B	NAME OF PATIENT	BATH	TREATMENT AND CARE
215-1	mrs Lyons	bed	A. M. Care & oral hygiene. Save all emesis.
-2	mrs White	help	A M. Care & oral hygiene. Check urine before lunch.
-3	mrs. Adams	bed	A. M. Care & oral hygiene. Keep L. leg elevated.
-4	mrs. Guno	self	Fully ambulatory. Check BP qh.
209-8	mrs. Daye	bed	See Nursing Care Plan.

SIGNATURE

DA FORM 1 JUL 57 8-256

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Figure 9-10. Sample completed Nursing Care Assignment (DA Form 8-256).

reaction to medication, and special points on the back of the form.

CAUTION

> These notations do not eliminate the responsibility of the individual to report immediately any condition or reactions that require emergency care.

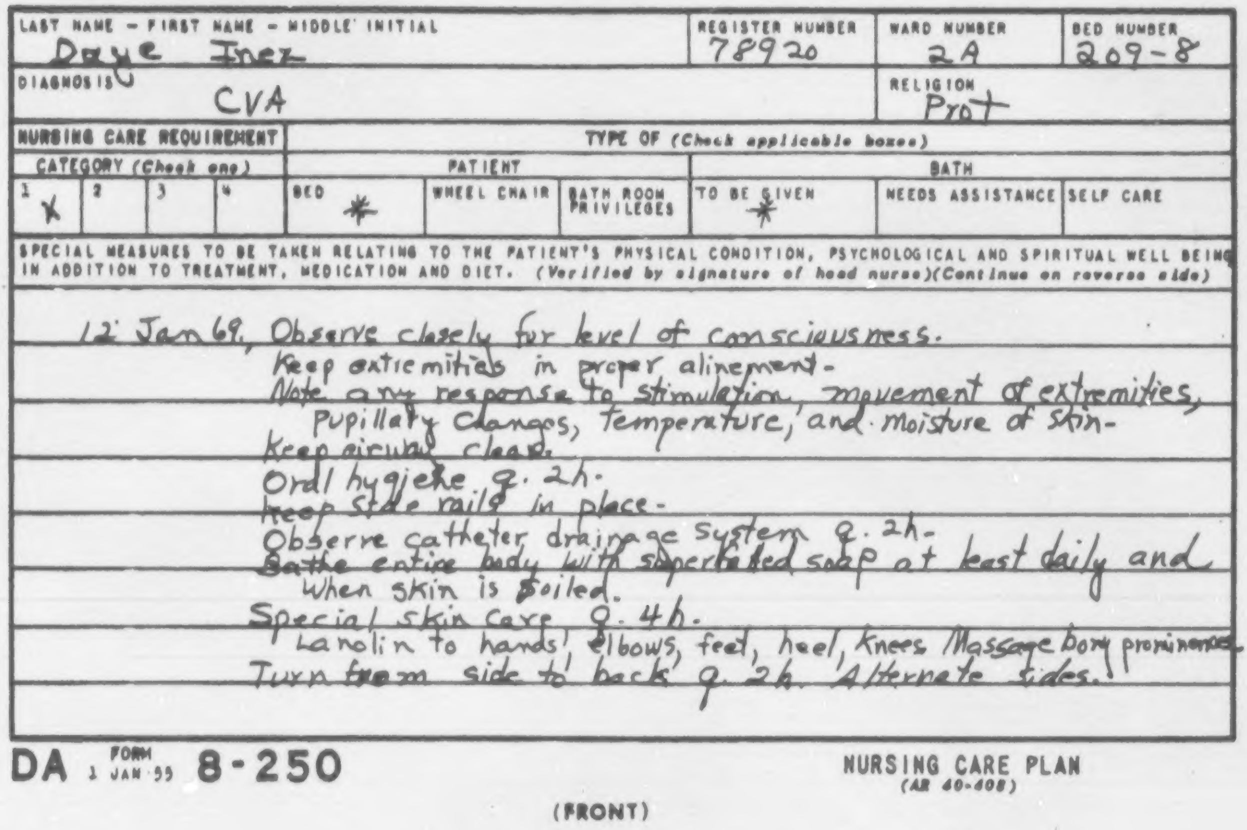
This form is signed and turned in to the head nurse. The notations can then be transcribed to the Nursing Notes if desirable. Afterward the form is destroyed. This form is used in conjunction with DA Form 8-250 (Nursing Care Plan).

9-24. Nursing Care Plan

DA Form 8-250 (Nursing Care Plan) is developed by the head nurse or nurse in charge. It indicates how to give nursing care to each individual patient to achieve the best results, to include specific nursing services the patient should receive (fig. 9-11). Additions and changes are made as needed.

NOTE

> Figure 9-11 illustrates the plan for Inez Daye who has bed number 209-8. Figure 9-8 shows that PFC Runner assists with this patient, and figure 9-10 follows through by including Mrs. Daye in PFC Runner's assignment. (These forms are simplified, and figure 9-8 does not show the entire week.)



LAST NAME - FIRST NAME - MIDDLE INITIAL Daye Inez	REGISTER NUMBER 78920	WARD NUMBER 2A	BED NUMBER 209-8
DIAGNOSIS CVA		RELIGION Prot	

NURSING CARE REQUIREMENT				TYPE OF (Check applicable boxes)					
CATEGORY (Check one)				PATIENT			BATH		
1	2	3	4	BED	WHEEL CHAIR	BATH ROOM PRIVILEGES	TO BE GIVEN	NEEDS ASSISTANCE	SELF CARE
X				*			*		

SPECIAL MEASURES TO BE TAKEN RELATING TO THE PATIENT'S PHYSICAL CONDITION, PSYCHOLOGICAL AND SPIRITUAL WELL BEING IN ADDITION TO TREATMENT, MEDICATION AND DIET. *(Verified by signature of head nurse)(Continue on reverse side)*

12 Jan 69, Observe closely for level of consciousness.
Keep extremities in proper alinement-
Note any response to stimulation, movement of extremities, pupillary changes, temperature, and moisture of skin-
Keep airway clear.
Oral hygiene q. 2h.
Keep side rails in place-
Observe catheter drainage system q. 2h-
Bathe entire body with superfatted soap at least daily and when skin is soiled.
Special skin care q. 4h.
Lanolin to hands, elbows, feet, heel, knees Massage bony prominences.
Turn from side to back q. 2h. Alternate sides.

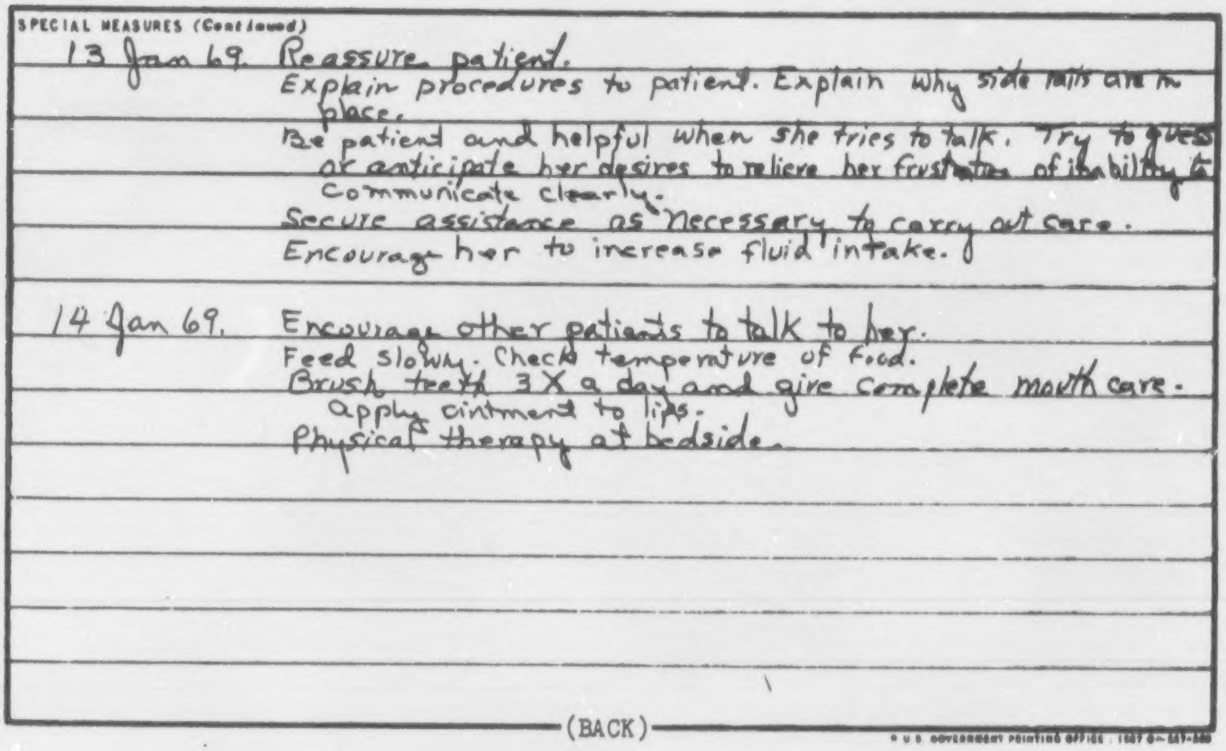
DA FORM 1 JAN 55 **8-250**

NURSING CARE PLAN
(AR 40-408)

(FRONT)

Figure 9-11. Sample completed Nursing Care Plan (DA Form 8-250).

1431



SPECIAL MEASURES (Continued)

13 Jan 69. Reassure patient.
Explain procedures to patient. Explain why side rails are in place.
Be patient and helpful when she tries to talk. Try to guess or anticipate her desires to relieve her frustration of inability to communicate clearly.
Secure assistance as necessary to carry out care.
Encourage her to increase fluid intake.

14 Jan 69. Encourage other patients to talk to her.
Feed slowly. Check temperature of food.
Brush teeth 3X a day and give complete mouth care. apply ointment to lips.
Physical therapy at bedside.

(BACK)

U.S. GOVERNMENT PRINTING OFFICE : 1967 O-[illegible]

Figure 9-11.—Continued.

(not included in this course)

~~paroxysmal (sudden), tonic (continuous muscular contraction) or clonic (a series of spasms) muscle spasms. The seizures may be mild and brief (petit mal) with little muscular spasm, if any; or they may be generalized, with both tonic and clonic spasms (grand mal). The onset of grand mal is sudden. As it begins, the patient may utter a quick cry and then fall. The face may be pale, the pupils dilated, the extremities stiff or contracted; the jaw muscles may also contract swiftly (this may cause the tongue, lips, or cheeks to be bitten); and incontinence may occur. During a seizure, maintenance of an airway and prevention of injury are the first concerns. (Once a seizure begins, the specialist can do nothing to stop it, but he can prevent injury to the child.) A padded gag or a firm roll of gauze should be inserted well back in the mouth between the teeth. The gag should not be forced between clenched teeth because of the danger of trauma to the gums and teeth. After a seizure has started it may be too late to prevent the child from biting his tongue by inserting a wedge. If on the floor, the head should be protected or cradled. The specialist should record exactly what happens—the time; how it began and in what part of the body; incontinence; position and movement of eyes; duration, severity, and reaction of the child after the attack. Afterward, the child should be made clean, dry, and comfortable and allowed to sleep. When he wakes up, he may be confused and have a severe headache. He should be carefully observed. The specialist must be careful to avoid showing overprotection, pity, or disgust. If anticonvulsant drugs are ordered, the specialist must be sure that they are administered at the correct time and are actually swallowed. Treatment also includes provision of a calm atmosphere and dietary management.~~

10–41. Skin

The skin of a child requires special care in diarrhea and in other conditions.

a. Infantile eczema is an inflammation of the skin. The lesions form vesicules (small blister-like lesions) and the baby scratches because the itching is unbearable. The infant's arms must be restrained, which causes frustration. He will need cuddling because of this. The doctor will order an ointment and solution to be applied and may order an emollient bath such as oatmeal or a mixture of corn starch and baking soda. The specialist puts the prescribed emollient in the water while it is filling and stirs it to mix it evenly. Before shutting off the faucets, he runs some cold water through them to cool them so the baby will not get burned if he grasps them. The bath temperature should be 95° F, but hot water is NEVER added after the baby is in the tub. He is usually kept in the tub for about 20 minutes but is NEVER left alone. If wet soaks are ordered, a gauze bandage is dipped in the solution ordered, squeezed gently to remove any excess, and then applied. These soaks must be kept wet. They are *not* covered with towels or rubber sheeting because evaporation cools and helps to relieve the itching. Wet compresses are applied to the face by using a square piece of gauze with places cut out for eyes, nose, and mouth. Four strings are attached to its four corners. The wet mask is then put in place and tied. Ointment, if ordered, is applied evenly and reapplied as needed. This is usually done by using the hand, rather than a tongue depressor.

b. Although *Nephrosis* is a kidney disease and not a skin disease as such, the gross edema which is symptomatological of the disease requires special consideration of the skin. Edema first starts at the eyes or ankles but spreads until it becomes generalized. It shifts as the child changes position while sleeping. The abdomen can become so distended that stretch marks similar to those of a pregnancy may appear. (Vomiting and diarrhea may also occur.) The child is irritable, listless, and pale. Good skin care is especially important during the severe edema. At least one bath daily is required and more may be necessary. Special attention must be given to neck, underarms, groin, and other moist areas. Soothing powder is used on male genitals. The scrotum may need support; if so, a soft pad is held in place by a T binder—adhesive tape is NEVER used. The child is turned frequently, his head may be elevated from time to time to reduce eyelid edema, and a pillow between the knees may help prevent pressure on sore surfaces. Accurate intake and output records must be kept. For a baby in diapers, an accurate record of the urinary output may be kept by accurately weighing the diapers before and after the child urinates. The character, odor, and color of the urine must also be noted.

c. Pediculosis is lice infestation. The nits (eggs) of the head louse appear as small, white or grayish flecks which are attached firmly to the hair shafts. Each nit will hatch in a maximum of 4 days. Treatment consists of cutting long hair and administering specially medicated shampoos and baths, as prescribed, to kill the organism. The prescribed medication is also administered. Nits may be removed by combing the hair with a fine-tooth comb dipped in hot diluted acetic acid (vinegar). Bed clothing, hats, caps, and clothing must be cleaned and disinfected.

d. Ringworm (*tinea*) occurs on the smooth skin, hands and feet, or scalp. The *tinea circinata* (smooth-skin ringworm) initially appears on the face, neck, or forearms. Usually only one appears at first—it is small, pinkish, round, and covered with small scales. Other lesions spread from this. There is very little itching. Another smooth-skin type, *tinea cruris*, first appears on the buttocks, thighs, or anal fold. It is accompanied by a greater degree of itching. Both respond to half-strength Whitfield's ointment applied daily. *Tinea capitis*, or *tinea tonsurans* is ringworm of the scalp. One type, *Microsporum lanosum*, comes from an animal source and cannot be transmitted to another child. *Microsporum audouini* is the other type, which is readily transmitted to other children. The lesions are round red patches with scales on the scalp of the head. Usually, no hair is present in the area. Topical treatment may be used for both, but X-ray therapy may be necessary with the latter. *Tinea of the feet* (or athlete's foot) is helped by fungicides of the doctor's choice, frequent sock changes, and airing of shoes.

e. Intertrigo (diaper rash) is caused by prolonged contact with wet diapers. The treatment usually consists of exposure of the buttocks and perineum area to air and to light from a 25-watt light bulb at least 3 times. This bulb should be high enough to prevent the child from reaching it. Application of ointment may be ordered. If so, a diaper is applied and the heat lamp not used. Intertrigo can be prevented by frequent changes of diapers, washing of skin at the time of diaper change, and correctly washed diapers. Plastic diaper panties retain heat from urine decomposition and can cause or aggravate diaper rash. They should not be used in a hospital unless a physician or a nurse orders them in a special case.

f. Dermatitis venenata is a contact dermatitis caused by direct contact with a vegetable irritant, usually poison oak or poison ivy. It is accompanied by a skin eruption, swelling, burning, and intense itching. If the attack is severe with considerable swelling, the doctor may order continuous hot compresses of liquid aluminum acetate.

g. Scabies (*itch*) causes severe itching, particularly at night. Secondary infection from scratching is a danger. Treatment consists of destroying the parasite, the itch mite. In treatment with sulfur ointment, the child must be thoroughly scrubbed and soaped in a hot bath before the ointment is applied. The ointment is applied all over the body except for the head, to include neck and soles of feet. Then no baths are given for 3 days, although the ointment is still applied for 3 nights. On the fifth day, the patient is again given a thorough hot bath and all contaminated clothing and bed linen are boiled or dry cleaned.

h. Furunculosis is a condition that goes with boils. A furuncle is usually a staphylococcic infection of a sebaceous gland or hair follicle. It is a red, elevated, sore area, that eventually comes to a head. If it does not rupture, it must be incised, but it should *never* be squeezed with the fingers. Hot compresses will hasten the rupture. These patients must be kept away from other patients to prevent the spread of staphylococcal infection.

i. Herpes simplex (fever blisters, cold sores) and *herpes zoster* are virus diseases. The latter's symptoms begins with an area of skin that is tender or sore. This area will later erupt into papular lesions which soon become vesicules. The disease is extremely painful. The most common site is along a rib, starting at the spine, although it can occur at the eye.

j. Burns consist of tissue destroyed due to exposure to heat, chemicals, or electricity; ultraviolet and roentgen rays; or contact with radioactive surfaces. Over 55 percent of burns occur in children. Burns are classified (para 8–34) according to the depth of tissue destroyed. The doctor will decide the degree and the treatment, but the specialist must watch a burned hospitalized child for shock and toxicity (high fever, rapid pulse, prostration, cyanosis, decreased urine volume, and vomiting). The child must be protected from infection. An accurate intake and output record must be maintained, a footboard used to prevent contractures, proper alinement maintained, the bed kept dry, and the child turned every 2 to 3 hours. Care must be taken to prevent contaminating the burned area with feces. Frequent checking of the child is necessary. Burns usually result in prolonged hospitalization, and recreation must be planned for the child. It is as much a part of the treatment as many nursing procedures.

10–42. Cerebral Palsy

This is a group of disorders that affect the motor centers of the brain. Although not progressive, there is no present cure. Cerebral palsy is caused by birth injuries, anoxia, subdural hemorrhage, or infections such as meningitis. Symptoms range from mild to severe but usually include feeding problems, convulsions but no high fever, and physical retardation (child is not able to sit, crawl, or walk at the normal range for his age level). Mental retardation may also, but not always, be present. Types of cerebral palsy include spasticity (tension in certain muscle groups, particularly those of lower extremities) and athetosis (involuntary, purposeless movements which interfere with normal motion). Speech, sight, hearing, and emotions may be affected. The disability should be explained to the parents, who must learn to accept the child as he is. Good skin care is essential and exercise is necessary to prevent contractures (a shortening of muscles due to lack of use). The specialist must insist that the patient do as much as he can for himself. The specialist must also carry out the physical therapist's assignments and instructions for the child. If braces are used, he checks them from time to time for such things as alinement and wear. A long hospitalization will probably be required. The specialist must avoid focusing his attention on the child's abnormalities and remember that he is an individual—and *accept him as he is.* He should be *empathetic*, not sympathetic. Above all, he must encourage the child during this stage of psychological as well as physical growth to be self-reliant and independent. The specialist may also encounter feeding problems. Often the child must be fed slowly to prevent aspiration. It is hard for such infants to adjust to solid foods, so the specialist must have extreme patience. Since the child tires easily, he should have frequent naps in a quiet room. The child may appear to be emotionally unstable, but this may be caused by frustration because even simple tasks can be overwhelming to him—his continuous failures cause him to despair of ever succeeding. Guidance and patience are absolute necessities to keep the child happy within his capabilities.

10–43. Pyloric Stenosis

A condition in which the muscular tissue of the pylorus thickens and hardens, constricting the size of the opening from the stomach to the duodenum. As it progresses, partial or complete obstruction may occur. The primary symptom is projectile vomiting with no sign of nausea. Treatment may be medical or surgical but, regardless of the type of treatment, the specialist must keep an intake and output record. The appearance and color of vomitus should be noted. The amount vomited should be measured accurately, especially if a baby is to be re-fed. If atropine or methscopolamine nitrate is used, the specialist must watch for flushing and record it. The techniques for properly feeding a baby (always hold a baby to feed him; never prop a bottle) should be followed, with particular attention to calm, unhurried feeding. These babies tend to eat too fast, so their rate of eating must be slowed. In postoperative care, the child's color, respiration, and pulse are watched.

10–44. Erythroblastosis Fetalis (Rh Incompatibility)

This is excessive destruction of the red blood cells of the baby because of an incompatibility with the red blood cells of the mother. Symptoms include anemia and jaundice. An exchange transfusion, followed by small transfusions later, may be ordered. The specialist keeps an accurate record of the amounts of blood withdrawn or injected and watches the baby afterward for jaundice, cyanosis, edema, convulsions, lethargy, vital signs, and changes in urine.

10–45. Leukemia (Cancer of the Blood)

The cause of leukemia is not known, but the disease is characterized by an uncontrollable increase in production of a specific kind of white blood corpuscles and the decrease of other types of white blood corpuscles, red blood corpuscles, and platelets. It terminates in death. The abnormal blood picture is usually the first symptom. At the present time, treatment gives only a temporary benefit; the primary treatment is to keep the patient comfortable and relatively happy. If Aminopterin or A-methopterin is given, the specialist must watch for symptoms of nausea, vomiting, diarrhea, ulceration of the mucous membranes of the oral cavity, alopecia (loss of hair), and high fever. These are signs that the toxic level of these drugs has been reached. If a child is on cortisone therapy, the specialist should see that the child is put to bed 1 hour before each meal; otherwise, he will be too tired to eat (cortisone makes the child feel better, so his activity increases, but it does not dissipate his tendency toward fatigue). When the platelet count goes under 100,000, the specialist must be alert for bleeding. Cotton swabs must now be used instead of toothbrushes. Bleeding can occur at the gums, nose, or rectum and can be so severe that transfusions will be needed. Petroleum jelly must be applied to the lips, which become dry and cracked. Since the child has so little re[illegible]ance to infection, he must be protected from infection or chilling. Skin care and care of the mucous membrane surfaces of the mouth must be gentle. The doctor will order comfort measures, but he will need the specialist's observations. Because of the pain, some children will prefer to be in bed or in a wheelchair rather than to be held. The child will also resist being bathed because of the pain. The specialist must encourage the child to eat something, so the diet is never forced on the child. He is usually allowed to eat anything he wants. Since death is inevitable, the specialist must show kindness and consideration to the child and his parents.

10–46. Contagious Diseases of Childhood

Among the contagious diseases of childhood are the common cold; chicken pox; measles (Rubeola); meningococcal meningitis; mumps; pertussis (whooping cough); poliomyelitis; German measles (Rubella); scarlet fever; and pneumonia. These contagious diseases are all covered in table 5–6; ward care of contaminated equipment is covered in table 5–7.

[illegible]–47. Croup

Croup (sometimes called spasmodic laryngitis) is a common childhood respiratory infection. It is characterized by hoarse cough, noisy inspiration, and struggle for breath which may be accompanied by moderate to severe retractions. Attacks occur mostly at night. The doctor may prescribe an emetic to cause the child to vomit, which helps to reduce the larynx's muscle spasms. Electric steam inhalators may be used, but croupettes are preferable from the standpoint of comfort and safety.

STEAM INHALATOR

Equipment

Steam inhalator
Medication, if ordered
Warm water

Procedure

1. Fill the inhalator with the warm distilled water and put medication, if ordered, in the machine's cup.
[illegible] Plug inhalator in; turn switch to high.
3. Close the door and any windows.
4. Position child comfortably. He may be in a semisitting position unless contraindicated.
5. Put the inhalator's nozzle about 18 to 24 inches from the child; if it is too close, you will burn him.

WARNING

> Place out of the child's reach. Children have been known to grab the inhalator and pull it over on themselves, with death resulting from the ensuing burns.

Steam should come out of the inhalator's spout until the steam surrounds the child's head.

6. Adjust switch to medium or low, depending on amount of moisture needed.
7. Time the treatment when the steam begins to flow and continue for prescribed time.
8. Refill with water as necessary.
9. Record relief obtained; how patient tolerated the treatment; time and length of treatment; and medication, if ordered.

Care of Equipment

1. Empty the water jug, wash, and dry.
2. Wash medicine cup.
3. Return machine to proper area unless treatment is to be given several times a day.

IMPROVISED CROUP TENT

Equipment

Cotton blanket
Sheet
Piece of screen
Safety pins
Steam inhalator

Procedure

1. First put a cotton blanket, then a sheet over it, until half of the crib's top and sides are covered. (The blanket absorbs the steam and keeps it from falling on the patient.) The other half of the crib is not covered.
2. Pin blanket and sheet in place, with pins on the outside and out of the child's reach.
3. Put the inhalator next to the crib with the spout forward inside the head of the tent.
4. Put a piece of screen or some other protection between the spout and the child.
5. Refill inhalator as necessary.
6. Observe the child frequently.
7. Record the color of child, degree of restlessness, reactions, and time of treatment.

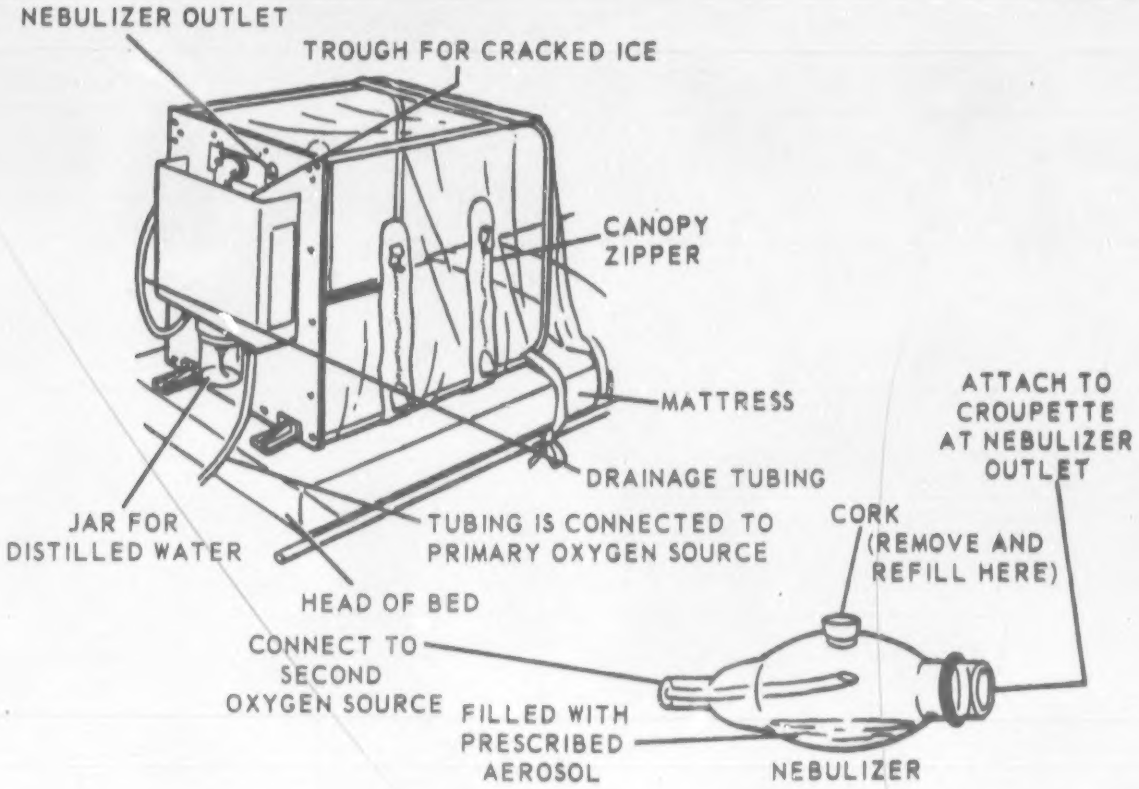

NEBULIZER OUTLET
TROUGH FOR CRACKED ICE
CANOPY ZIPPER
MATTRESS
ATTACH TO CROUPETTE AT NEBULIZER OUTLET
DRAINAGE TUBING
CORK (REMOVE AND REFILL HERE)
JAR FOR DISTILLED WATER
TUBING IS CONNECTED TO PRIMARY OXYGEN SOURCE
HEAD OF BED
CONNECT TO SECOND OXYGEN SOURCE
FILLED WITH PRESCRIBED AEROSOL
NEBULIZER

Figure 10-18. Croupette humidity tent.

CROUPETTE

(fig. 10-2)

A croupette may be used for respiratory infections. It uses cool, moist air which liquefies the secretions of the bronchioles and reduces the childs' temperature. Oxygen or air under pressure may be used to provide pressure.

Equipment (With Oxygen)

Croupette
Tap water
Ice
Bucket
Oxygen
Rubber sheet
Cotton blanket
Distilled water

Procedure (With Oxygen)

1. Put a rubber sheet on the crib and then cover with a blanket. (The blanket absorbs moisture and the rubber sheet prevents oxygen from escaping.)

   CAUTION

   Do not block the lower opening of the recirculation pipe with anything, as this will make the tent warm.
2. Fill trough at back of croupette with ice and tap water to indicated level.
3. Secure the canopy under the frame on both sides.
4. Seal canopy at the front with a folded blanket or sheet tucked loosely under the mattress sides so that carbon dioxide can escape.
5. Fill the jar into which the oxygen flows three-fourths full with distilled water.
6. Refill with ice as necessary. The ice prevents the tent from becoming too warm.
7. Change the child's clothes if they become damp but do not open zippered portholes more than necessary.
8. Use usual precautions with oxygen (table 5-4).

Care of Equipment

1. Empty the distilled water jar, wash, and dry.
2. Drain ice and water from the trough and wash trough with warm water and soap. Do *not* use alcohol.

3. Clean the canopy with mild soap and warm water. Fold neatly.
4. Return to the designated area.

10–48. Diarrhea

This is characterized by a sudden onset with nausea, vomiting, chills, loose stools, abdominal pain, fever, and prostration. Diarrhea is a severe disease in any child and extremely severe, often fatal, for an infant. The stools usually have mucus and may have blood as the disease progresses. The greatest danger is dehydration and acidosis. A close intake and output record must be maintained. The electrolyte balance must also be maintained, as severe loss of potassium may accompany the disease. The doctor will usually order antibiotics and may order gastric lavage, paregoric, or parenteral fluid therapy. Nothing by mouth except water is also a common order for the first 24 hours. As symptoms disappear, liquids and soft diets are usually ordered. Disinfection procedures must be followed throughout the course of this disease.

10–49. Rheumatic Fever

Rheumatic fever occurs primarily between 5 and 15 years of age. It frequently follows infections caused by group A beta-hemolytic streptococci. Recurrences are frequent and many deaths because of cardiac involvement are directly traceable to it. Its symptoms are general—malaise, loss of weight and appetite, paleness, low-grade fever (especially in the afternoon), and spontaneous nosebleed. A single attack will last from 1 to 3 months or longer. Successful nursing care depends upon absolute bedrest and lack of excitement. Sometimes a child may not feel ill; then the specialist will have difficulty keeping him in bed. Some children will have emotional difficulty—withdrawal, refusal to admit that they are ill, or a complete rebellion. Mood changes can be extreme, so the specialist must be prepared to be accepting and cheerful no matter what reception he meets. The specialist will probably be required to take the child's TPR every 4 hours and to observe him for lesions, dyspnea, swollen joints, and complaint of pain. Sometimes the child will have diaphoresis (severe sweating); then his skin will have to be bathed and gowns and bed linen changed frequently. An emollient or oil may be prescribed for dry skin surfaces.

10–50. The Battered Child Syndrome

a. General. The abused child has always been a problem. Although statistics show that this syndrome is increasing in recent years, it may well be that it is only recognized and publicized more. Infants and small children are the usual victims. Suspicion of child abuse is aroused when any one or more of these factors are present—

- There are multiple bruises and lacerations.
- The injuries seem out of proportion to the story told about the accident.
- The parents attempt to conceal information.
- There are obvious signs of neglect and malnutrition.
- The child fails to cry. (The unknowledgeable may think that they are merely being exceptionally good children.)

These battered children arouse strong feelings of indignation, even hostility, but nursing personnel must be careful to remain objective. It is often difficult to prove that the injury was intentionally afflicted; in some cases, it may indeed have been accidental. Even if it seems apparent that the child has been injured by one of his parents, the specialist should report his observations to the nurse or physician, and avoid expressing his indignation to patients or parents.

b. Parents of Battered Children. Such a parent may be like a hurt child, too, and may be incapable of seeing that the infant or child is an immature person. He often looks to a mere infant to satisfy his emotional needs and becomes infuriated when the baby cannot help him. It is a blunder to antagonize the parent because it makes future communication difficult. The majority of parents who injure their children want help. In most cases, they have voluntarily brought the child to the hospital. If help is offered without accusations or threats, the parents may cooperate. The goal is to help the parent and to do what is best for the child. Nursing personnel must remember that some of these parents are mentally ill or mentally retarded; others are emotionally immature persons who were neglected or abused as children; others may be overwhelmed with problems; all have strong guilt feelings.

c. The Specialist. The specialist can best help by observing the parents. What is their reaction to the child? You can suspect abuse and alert the nurse or doctor when parents are critical of the child, angry because he is hurt, seldom touch or look at him, show no remorse nor concern about his treatment, leave the hospital soon after he is admitted, and seldom visit him. These parents usually will not volunteer information and are irritable or evasive when describing the circumstance attending the injury. They will usually maintain that the child injured himself. On the other hand, they may offer much information about the injury; however, much may be false and misleading. Any information obtained from the parents or observation of their reaction to the child should be immediately reported to the nurse or doctor. This information must be considered confidential and not gossiped about with other ward personnel.

d. The Child. The child will not cling to his parents for reassurance or comfort. Such children seem afraid of physical contact initiated by the parents or by anyone. They may whimper or try to withdraw from any contact. They seldom cry, seemingly realizing that crying has only brought them more pain. If they cry during treatment, their crying is hopeless, without any expectation of being comforted. Small infants may lie motionless with no expression on their faces. Children who can talk may or may not tell you that their injury was inflicted by the parent.

e. Nursing Care. As the child begins to show some awareness of the change in his situation, you should offer some bodily contact. When he responds, you must respond, also. The child will become more active as he improves and may test his relationship with you by such actions as tentative biting or poking with his fingers. He may be extremely anxious and cling to anyone, or he may withdraw completely. Tender, loving care is the key in the approach to the battered child, more so to this child than to any other pediatric patient.

f. The Army Health Nurse. The Army Health Nurse is usually brought into the case as soon as there is suspicion of child abuse. He needs to establish a relationship with the child and his parents that he can sustain in the home environment. The child may, however, not be returned to his home. He may be removed temporarily or permanently. His safety is the paramount governing factor. Even then the Army Health Nurse can be of service in his new environment.

-(not included in this course)

Section VII. CONGENITAL ANOMALIES

10-51. General

Some congenital anomalies cause death or permanent handicaps; others can be corrected surgically. Any part of the body may be affected. There can be a complete absence of a part or a malformation.

10-52. Malformation of Mouth and Palate

The most frequent of these malformations are cleft palate and harelip, the result of failure of the maxillary, premaxillary, and palatal processes to fuse. One may occur without the other, but they frequently occur together. Although these babies have excellent appetites, they have trouble in sucking and swallowing. They swallow large amounts of air, and need to be burped often. Surgery is the only treatment. A cleft lip can be operated on around the age of 3 months, but a cleft palate is not usually repaired until after the child reaches 2 years of age. Meanwhile the baby must be fed, and the parents must be taught how to feed him. No one method will work for all—some infants can use a special nipple (fig. 10-13), others must be fed by cup, or by medicine dropper with a rubber tip to prevent injury to his gums, and some require gavage.

NOTE

For infants with cleft lip repairs, medicine droppers with rubber tips or asepto syringes with rubber tips are used. For infants with cleft palate repairs, a cup or asepto syringe with rubber tip is used.

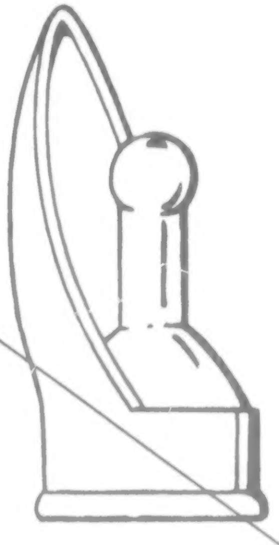


Figure 10-13. Cleft palate nipple.

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